ARCHITECTURAL RECORD

NEWS & TRENDS

BUILDING TYPES (BUILDINGS FOR BUSINESS)

A Doorway

becomes an entrance of Charm and Distinction

BECAUSE OF BRONZE

The pictures tell a convincing story for the appearance characteristics of Anaconda Architectural Bronze. But, they don't tell the whole story.

In addition to adding a distinctive note of beauty and charm to well-designed entrances, bronze provides the economy of durability and easy maintenance. As a matter of fact, only occasional cleaning is necessary to maintain its original lustre. Then, too, moderate cost and ready adaptability to original design are other practical reasons why this ageless metal is the choice of so many architects.

• • •

The American Brass Company is the leading supplier of architectural bronze, copper and nickel silver in all wrought forms for ornamental work of every description.

These photographs by courtesy of The A. J. Johannsen Agency of Northwestern Mutual Life Insurance Co. 4092

This building at 161 Remsen Street, Brooklyn, went untenanted for five years but was successfully leased soon after the entrance was modernized with Anaconda Architectural Bronze. Penn Brass & Bronze Works, Brooklyn, N.Y., fabricated and installed the metal work.

FOR ORNAMENTAL WORK

ANACONDA
from mine to consumer

Anaconda Bronze

THE AMERICAN BRASS COMPANY, General Offices: Waterbury Connecticut

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ARCHITECTURAL RECORD

COMBINED WITH AMERICAN ARCHITECT AND ARCHITECTURE

NEXT MONTH

THE YEAR of 1941 marks our 50th anniversary, and your January RECORD will be the first of 12 Golden Jubilee issues to celebrate the event.

Progress is a startling thing when old and new are compared, and for proof the January issue will present such comparisons. We've combed the country for the newest examples in a long list of building types, have rifled our files for outstanding examples of 1891 design, and have developed a "flash-back" method of publishing them side-by-side. The resulting portfolio makes a pretty thrilling package. Contemporary subjects range from a new classical museum group in Massachusetts to a Tennessee laundry where customers drive in, give their orders through a loud-speaker, and receive deliveries from uniformed attendants on roller-skates!

Technical progress will also be charted, in the form of a symposium article. Developed by Professors John E. Burchard and Frederick Fassett of M. I. T., it will embody progress reports by eight M. I. T. experts in such fields as Sound, Illumination, Heating, Cooling and Ventilation, Biology and Sanitation, Metallurgy, Chemical Advances, Structural Theories, and Building Requirements.

President Edwin Bergstrom has taken time from his AIA administrative job to send a message to all architects relative to the profession's future. No man is better qualified to discuss the subject; and President Bergstrom's article will constitute a thoughtful analysis of current professional problems and a realistic survey of those possibilities and limitations that seem to lie ahead.

Industrial buildings—of pressing interest the country over—will be the subject of the January Building Types study. In characteristic fashion Time-Saver Standards, crisp text, diagrams, and drawings, will record progress in factory design, construction, and equipment, particularly significant to the needs of current defense activities.

CONTENTS

VOLUME 88 — DECEMBER 1940 — NUMBER 6

NEWS AND TRENDS

NEW BUILDINGS 31
- Boys Club in New York City 31
- Mortuary in California 37
- Community Center in New Jersey 40

TRENDS IN BRIEF 44
- News from Washington on Defense Activities 44
- Defense Activity Broadens Scope of Building Needs 100
- Home Movie Projection Creates New Design Problem 104
- Small-House Club Offers Architects New Opportunity 106

HOLLYWOOD TACKLES THE PARKING PROBLEM 45

THE INTEGRATION OF NATURAL AND ARTIFICIAL LIGHT 49

NEW HOUSES 57
- Portland, Oregon 57
- Houston, Texas 62
- Knoxville, Tennessee 64

RESIDENTIAL DETAILS: FLORICULTURAL 67

★

BUILDING TYPES . . . . BUILDINGS FOR BUSINESS

BRAZILIAN PRESS ASS'N (ABI) BLDG., RIO DE JANEIRO, BRAZIL 74

FIRST NAT'L BANK BLDG., GREENWICH, CONN. 80

CENTRAL TOWER, SAN FRANCISCO, CALIF. 82

3RD NAT'L BANK BLDG., NASHVILLE, TENN. 84

OFFICES FOR STANLEY WORKS, NEW BRITAIN, CONN. 87

AETNA BUILDING, NEW YORK CITY 88

TIME-SAVER STANDARDS 91
- Telephone Installation—Commercial Bldgs. 91
- Flashings—Multistory Masonry Walls 93

★

BEHIND THE RECORD 7

WITH RECORD READERS 10

THE RECORD POLL 16

REVIEWS OF CURRENT LITERATURE 24

NEWS OF MATERIALS AND EQUIPMENT 96

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AR-H-23

● Atlas High-Early cement speeds up construction of Camp Edwards, United States Army Cantonment at Falmouth, Mass. General Contractors, Walsh Construction Co., Davenport, Iowa. Below: Newly stripped concrete foundation walls of one of the 1200 separate buildings making up the camp.

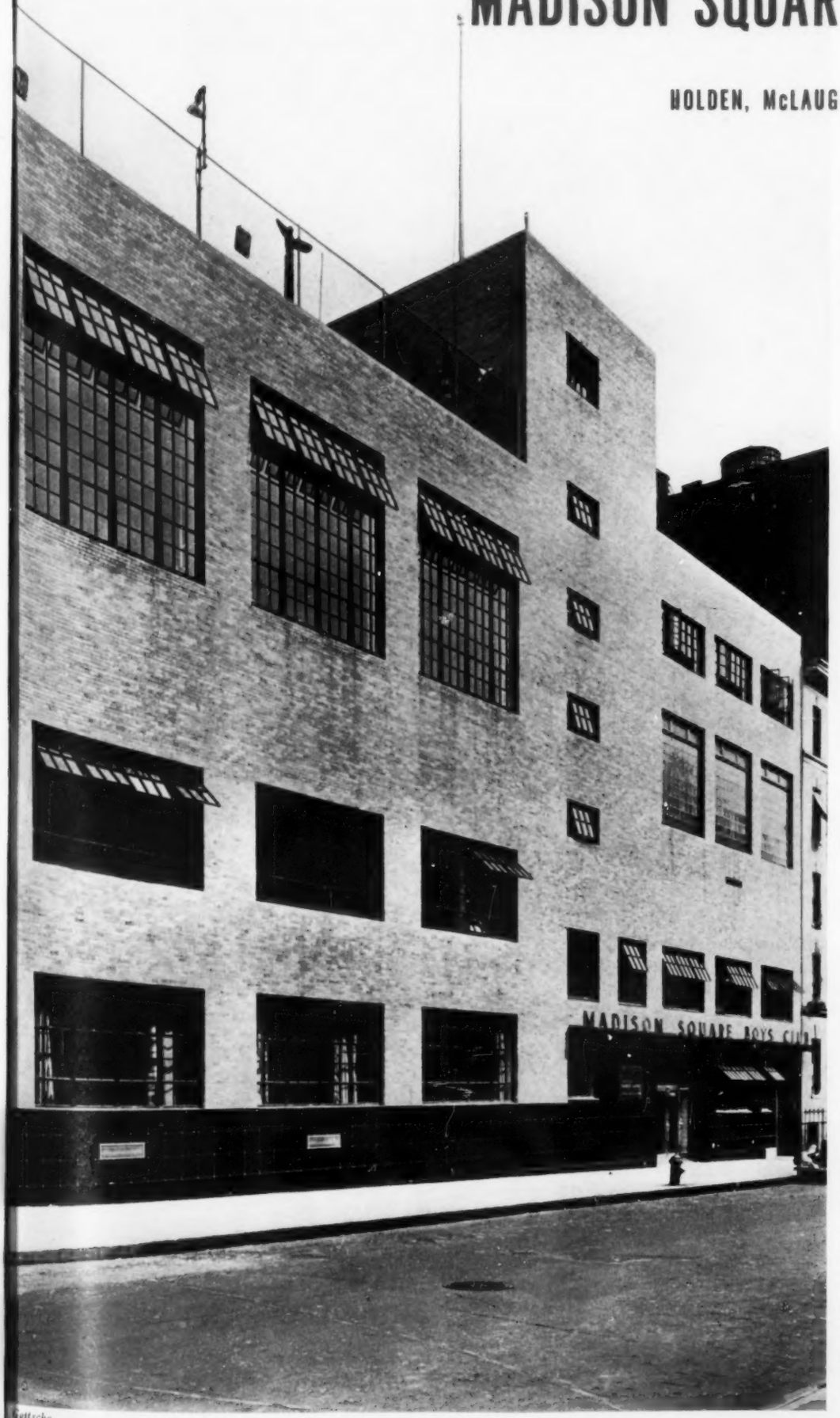
ATLAS HIGH-EARLY CEMENT

A UNIVERSAL ATLAS PRODUCT

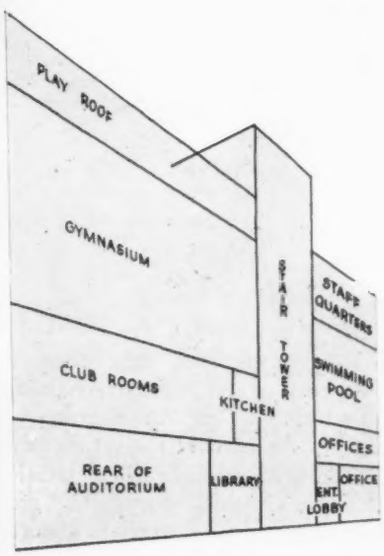
MADISON SQUARE BOYS CLUB

HOLDEN, McLAUGHLIN & ASSOCIATES, Architects

The Madison Square Boys Club in New York City was built with funds given by the Hayden Foundation as a memorial to the late Charles Hayden. Excluding professional fees and cost of equipment, construction cost came to approximately $350,000. In addition, $20,000 was set aside for contingencies and refinements.



Gottscho



THE BUILDING is the noteworthy result of careful pre-planning from all points of view—budget, design, plan, and equipment.

Planned for a possible membership of 2,500, with average daily visits of 400 boys, the building includes departments for athletics, games, dramatics, classes and clubs, arts and crafts. Beside the regular club facilities, there are also living quarters for the staff.

NEWS AND TRENDS

Photos by Gottscho

WHILE DEVELOPING THE PLANS, the architects worked closely on construction and maintenance estimates with the builders, the Turner Construction Co. An alternate plan was always kept in mind in case of the need of budget economies.

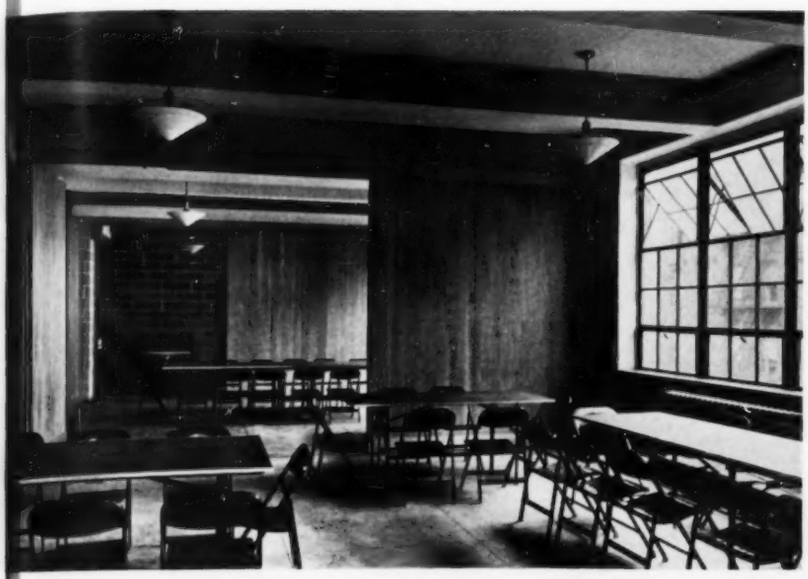
The final solution led to location of gymnasium and swimming pool on the third story. The ground floor was thus left free for the main lobby (in which is a mural executed by Charles C. Curran), game and play rooms, canteen, library, and assembly room. And, by careful planning, club offices were sandwiched in under the shallow end of the pool.

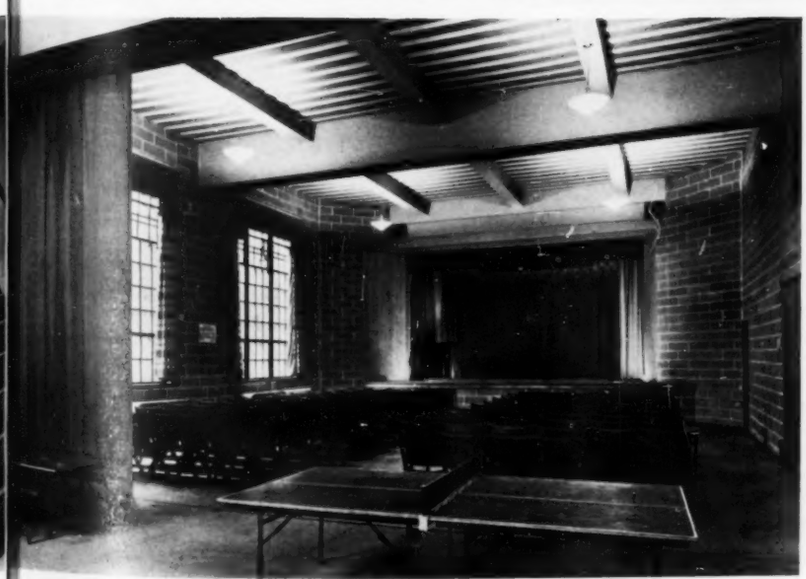
Two plan features are particularly notable—central location of control rooms, from which several activities may be supervised at once, and the flexibility of use of various rooms made possible by rolling partitions (see photos opposite).

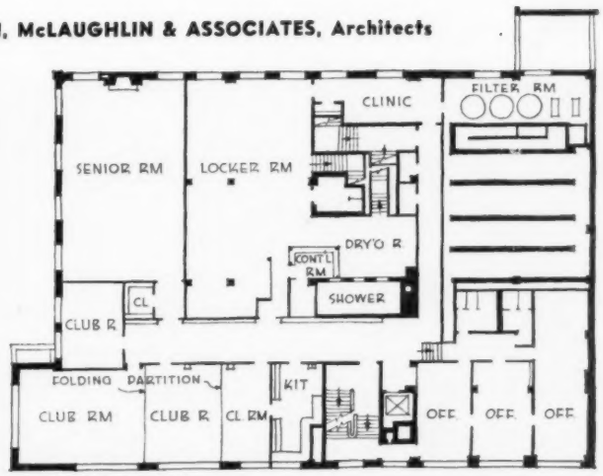
In construction, plaster (except in the staff quarters) is almost completely eliminated. An ashlar slag block in a range of tan and light-brown colors serves for all masonry partitions and furring.

An interdepartmental speaker system, controlled from the head offices, allows communications of all sorts to or from any part or parts of the building.

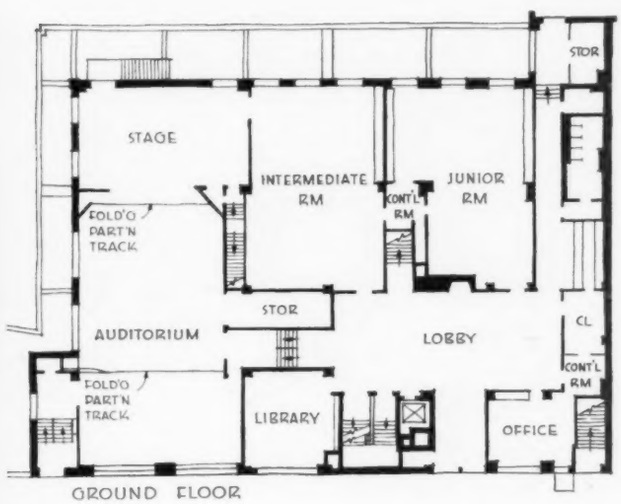
HOLDEN, McLAUGHLIN & ASSOCIATES, Architects



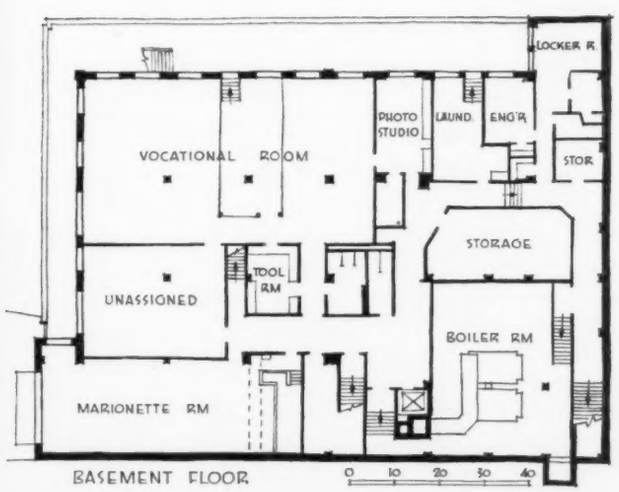




SECOND FLOOR

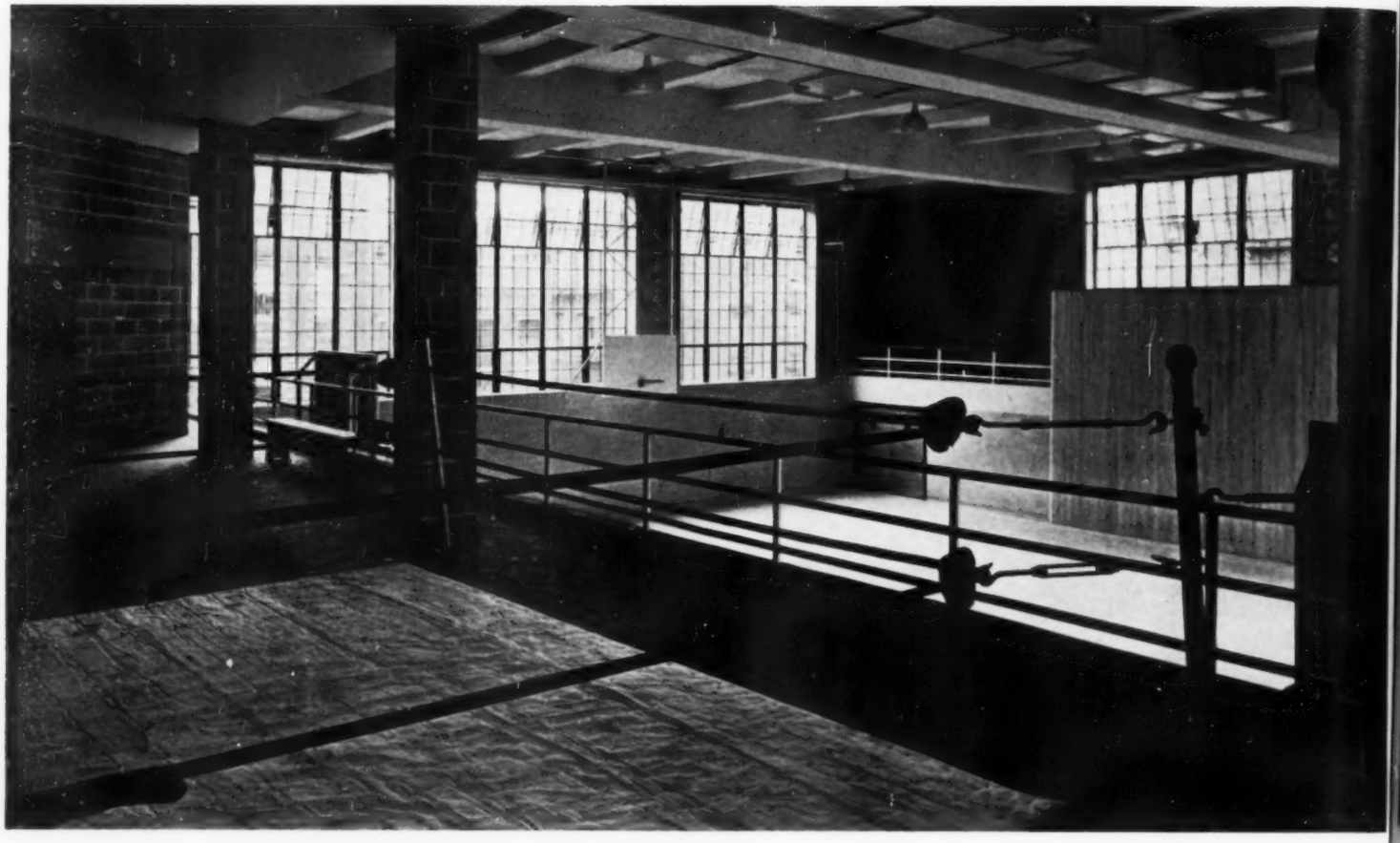


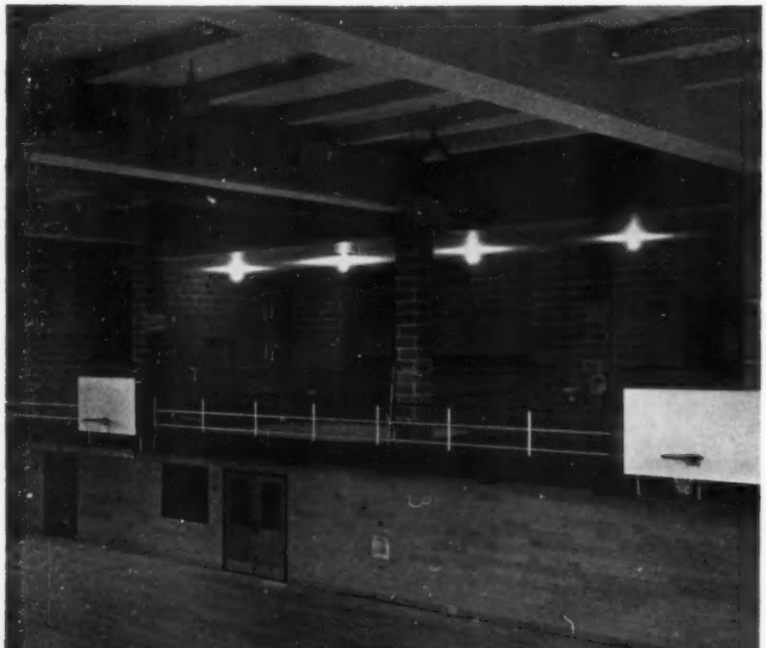
GROUND FLOOR



BASEMENT FLOOR

THE MAIN ASSEMBLY ROOM, at left bottom. The rear area (foreground) may be cut off from auditorium by movable partition. At left of the stage is housed a similar partition that pulls across to form a shallow stage for speeches, debates, etc. At right of stage, on the same level and connected with it, is the large game room shown in the photo at center. Note movable partition (closed), on the other side of which is another playroom. Both rooms are controlled from a single station point (window at far right of photo). Photo at top shows three club rooms on second floor which may be used separately or (wtih partitions rolled back) as a single large room.

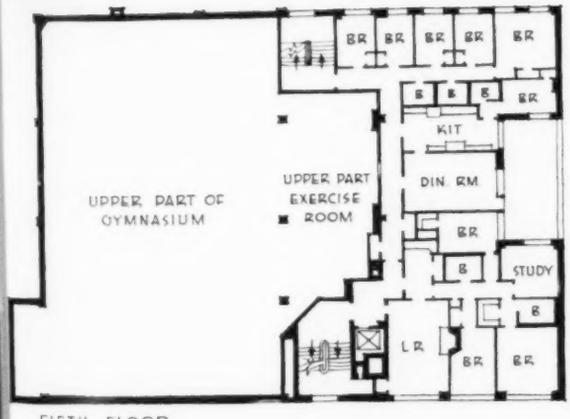




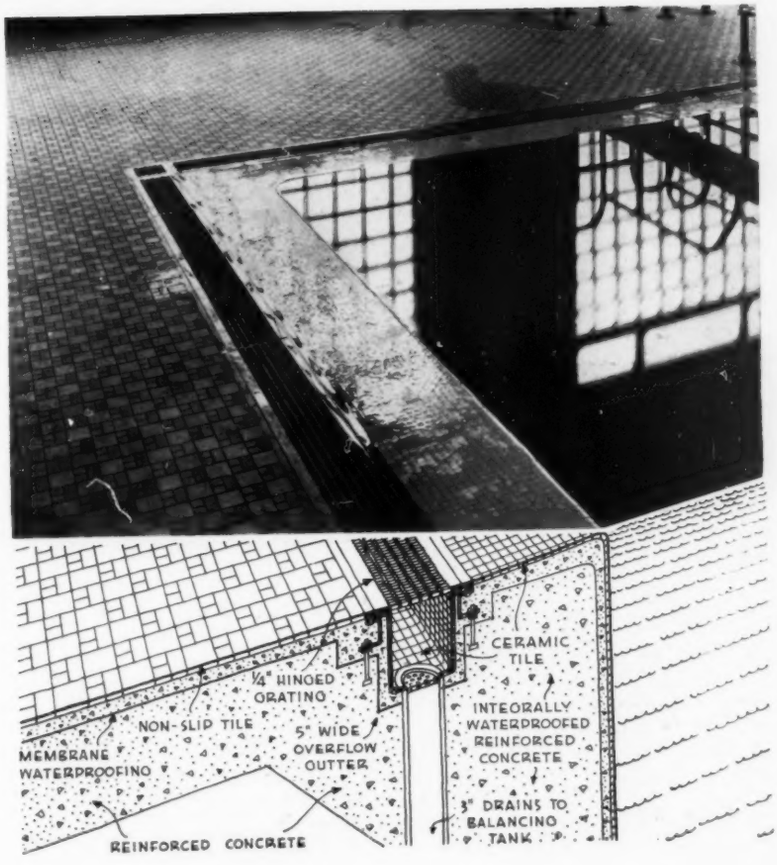
Photos by Gottscho

THIRD FLOOR

GYMNASIUM. Activities in both the gym and the swimming pool, located at the third-floor level, are supervised from a control room located at the head of stairs from locker rooms. Notice in plan how boys entering pool automatically pass through shower rooms and foot bath. Structural slabs are of lightweight concrete, cast in plywood forms. Exposed ducts and grilles are part of the architectural treatment. Gymnasium walls and the pool ceiling are soundproofed with cork. Auditorium and gym ceilings have fiberboard soundproofing.



FIFTH FLOOR



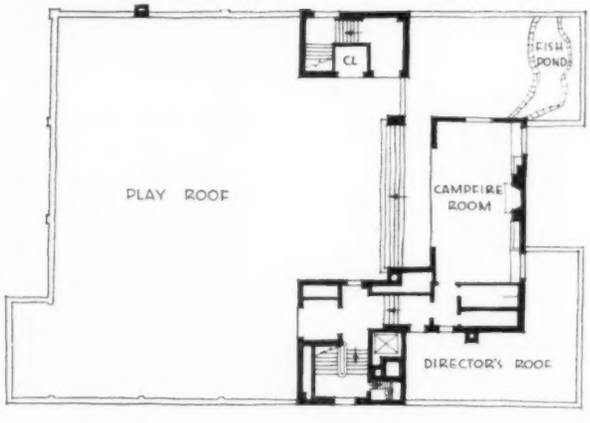
SWIMMING POOL. One of the first successful flush-deck pools with balancing tank (see detail at right). Throughout the building—in foundation walls, floors, swimming pool, and tile mortar—integral concrete waterproofing was used. The entire area below the pool is protected by a waterproofing membrane.

The building's heating system was designed to work on a reduced basis. The gymnasium is heated by unit heaters; locker room, pool, auditorium and young boys' club room are heated by ventilating units. The pool is lighted by indirect and lensed fixtures and by underwater lights.

MADISON SQUARE BOYS CLUB

HOLDEN, McLAUGHLIN & ASSOCIATES

Photos by Gottscho



PLAY ROOF. Every square inch of the roof area is put to use. A large campfire room with an open fireplace serves as a woodworking and nature-study room. By rolling back the big doors, the room becomes a stage for summer dramatics. Extension of the floor of this room onto the terrace forms an outdoor stage. The play roof is finished with a resilient roof surfacing. Roof cappings are of precast cement. These were constructed with a specially designed dowel so that the bond with the parapet and with adjacent stones would be complete even without mortar.

George D. Haight

RICHARDSON MORTUARY, ONTARIO, CALIFORNIA

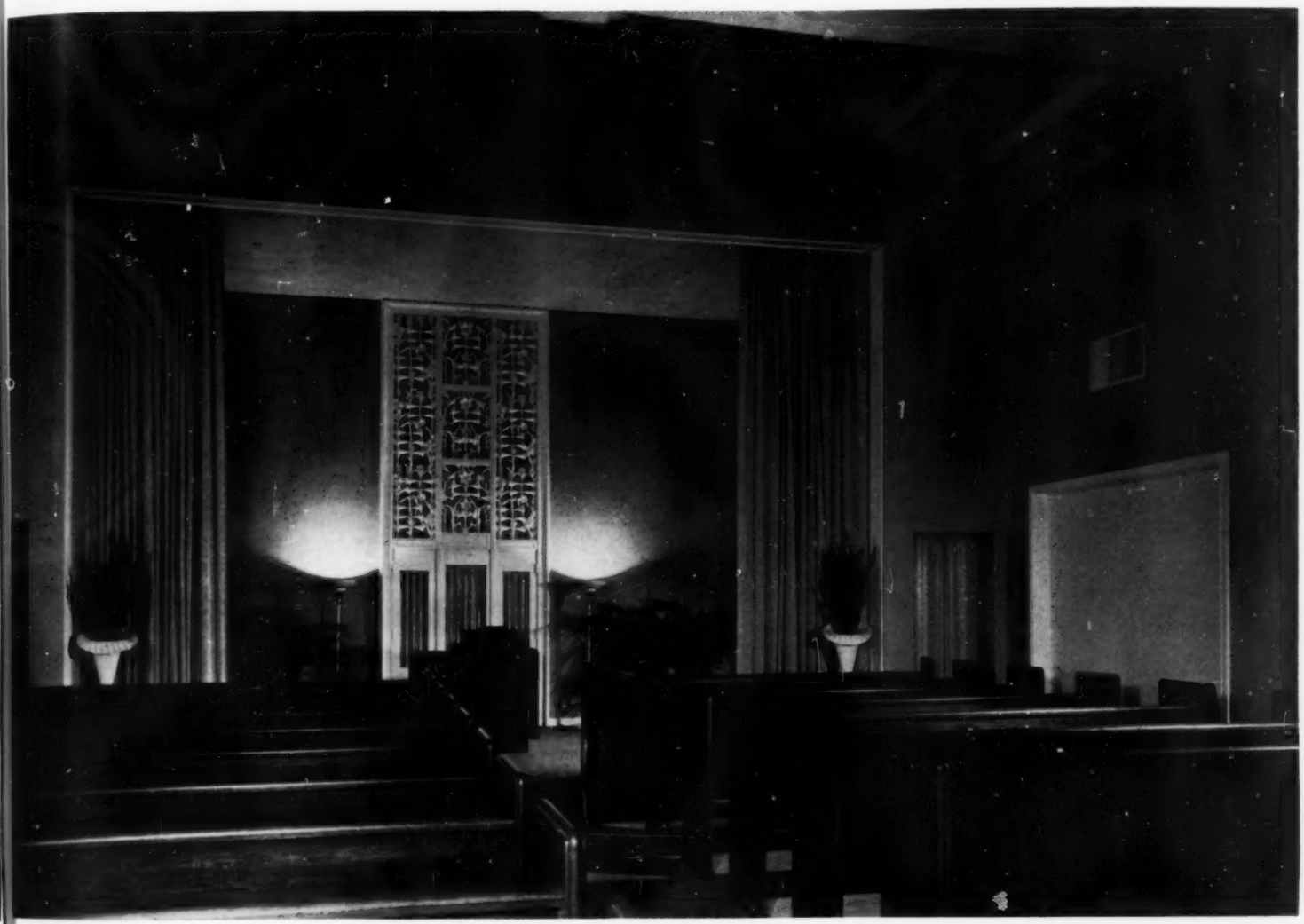
The architect, GRAHAM LATTA, sought qualities of "quiet repose, dignity, and avoidance of anything gloomy." In addition, he produced an unusually flexible plan and a challengingly fresh design for a type of building that is frequently handled in an unimaginative manner.

THE SCALE AND CHARACTER of the building are wholly congenial with the residential district near which it is located. According to the architect, however, "the chapel seems to identify the purpose of the building sufficiently so that the owners have never felt it necessary to clutter it with a sign." Organization of the plan (see next page) is such that the two main entrances are clearly distinguished. A person calling on business instinctively heads for the office door, while those who attend a service automatically go to the chapel entrance. The stucco exterior of the building is painted light straw color; the trim is white.

THE TWO ENTRANCES clearly define the chapel and the business office. Families may reach their room privately through the patio.

Photos by George D. Haight

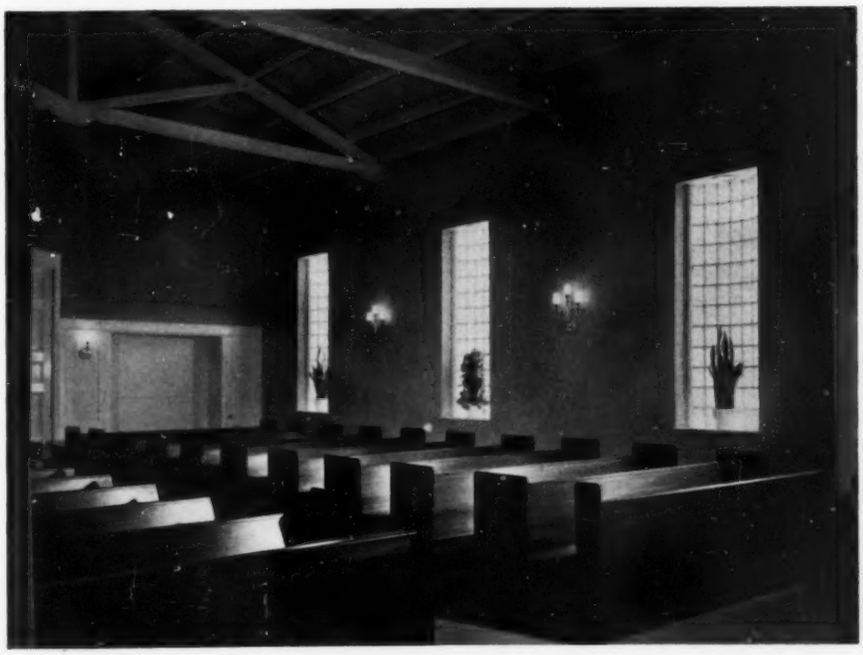
PLAN



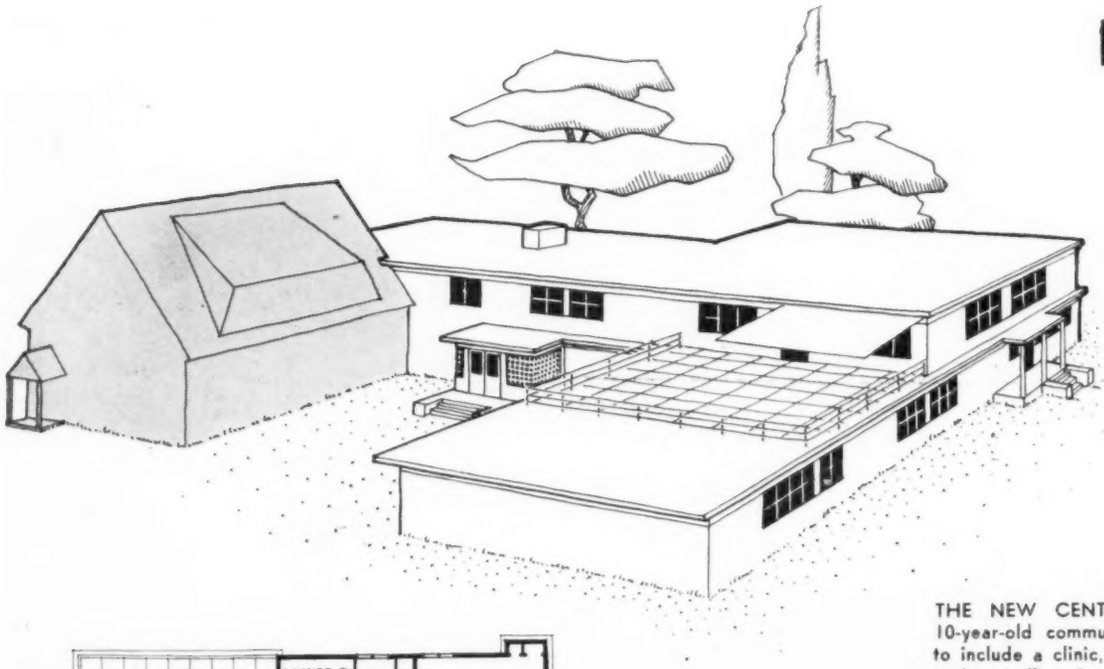
WALLS OF THE CHAPEL are painted a cool green; trim is white. The ceiling is of thick structural insulating slabs which span the purlins.

THE PROGRAM CALLED FOR complete segregation of functions. All rooms serving the public open from the reception room and its adjoining hall. Persons attending a service enter the chapel directly. Florists and doctors enter the workroom, entirely separated from public rooms.

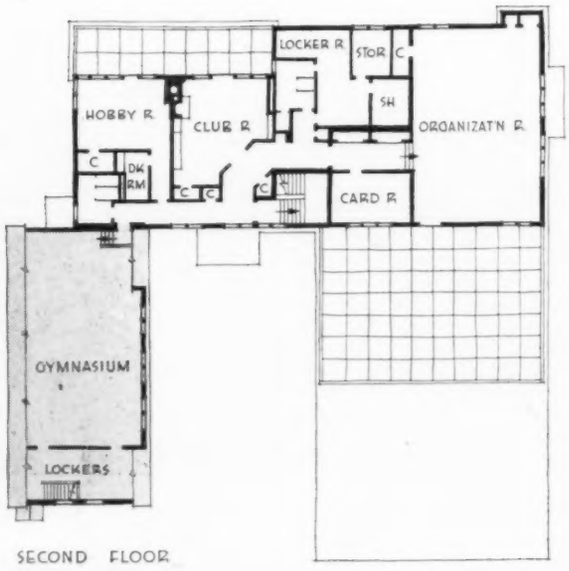
Flexibility is gained by the folding walls of slumber rooms. For a small service, both slumber rooms and the family room combine to form a small chapel seating 50. For ordinary services the main chapel seats 126, exclusive of the family room. Or, the slumber rooms may be opened into the chapel, giving a total capacity of 170. The family may reach its service room privately by doors from the patio, reception room, or music room. The garage is so located that all unloading is entirely private and inconspicuous.



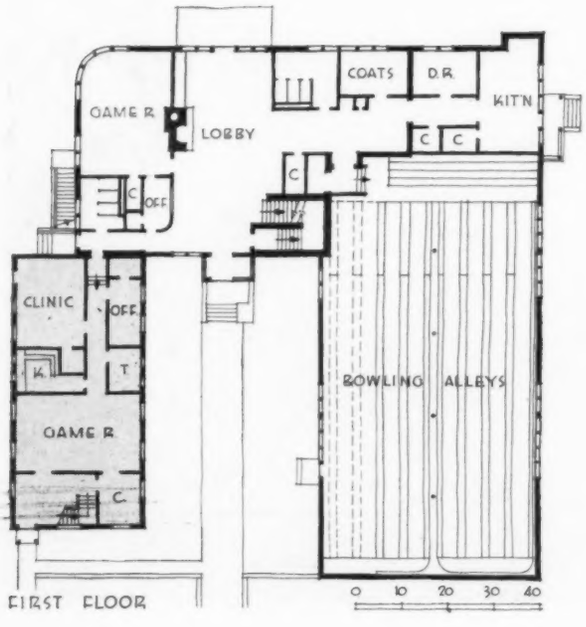
BAYWAY, N. J.,



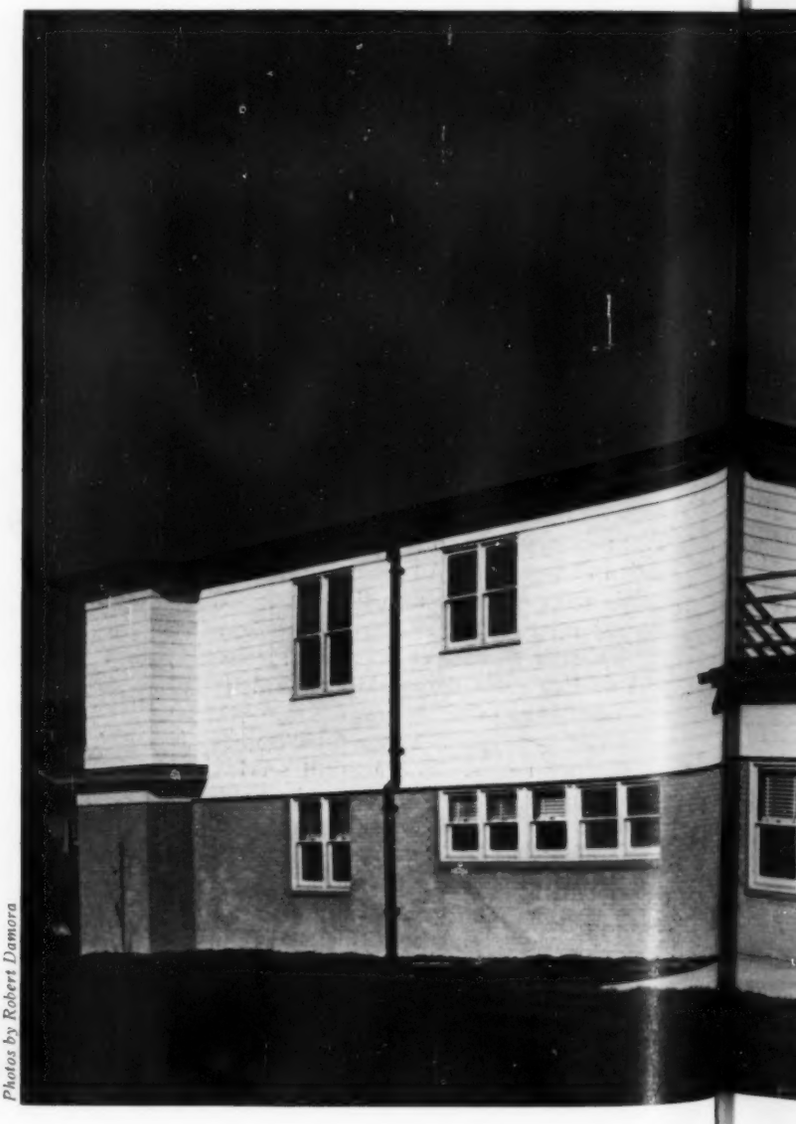
THE NEW CENTER is a sizable addition to a 10-year-old community house, which is now altered to include a clinic, a game room, a small gymnasium and an office for the use of the social directress.



SECOND FLOOR



FIRST FLOOR



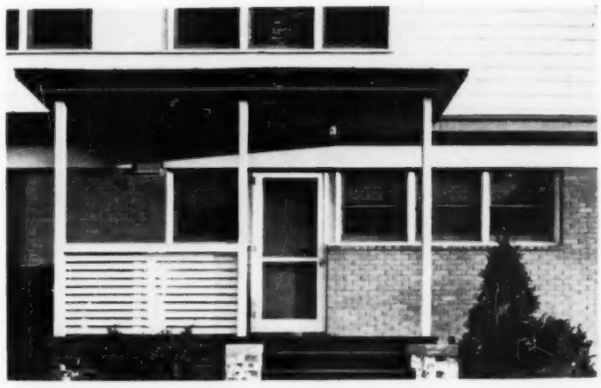
Photos by Robert Damora

COMMUNITY CENTER FOR EMPLOYEES OF STANDARD OIL PLANT

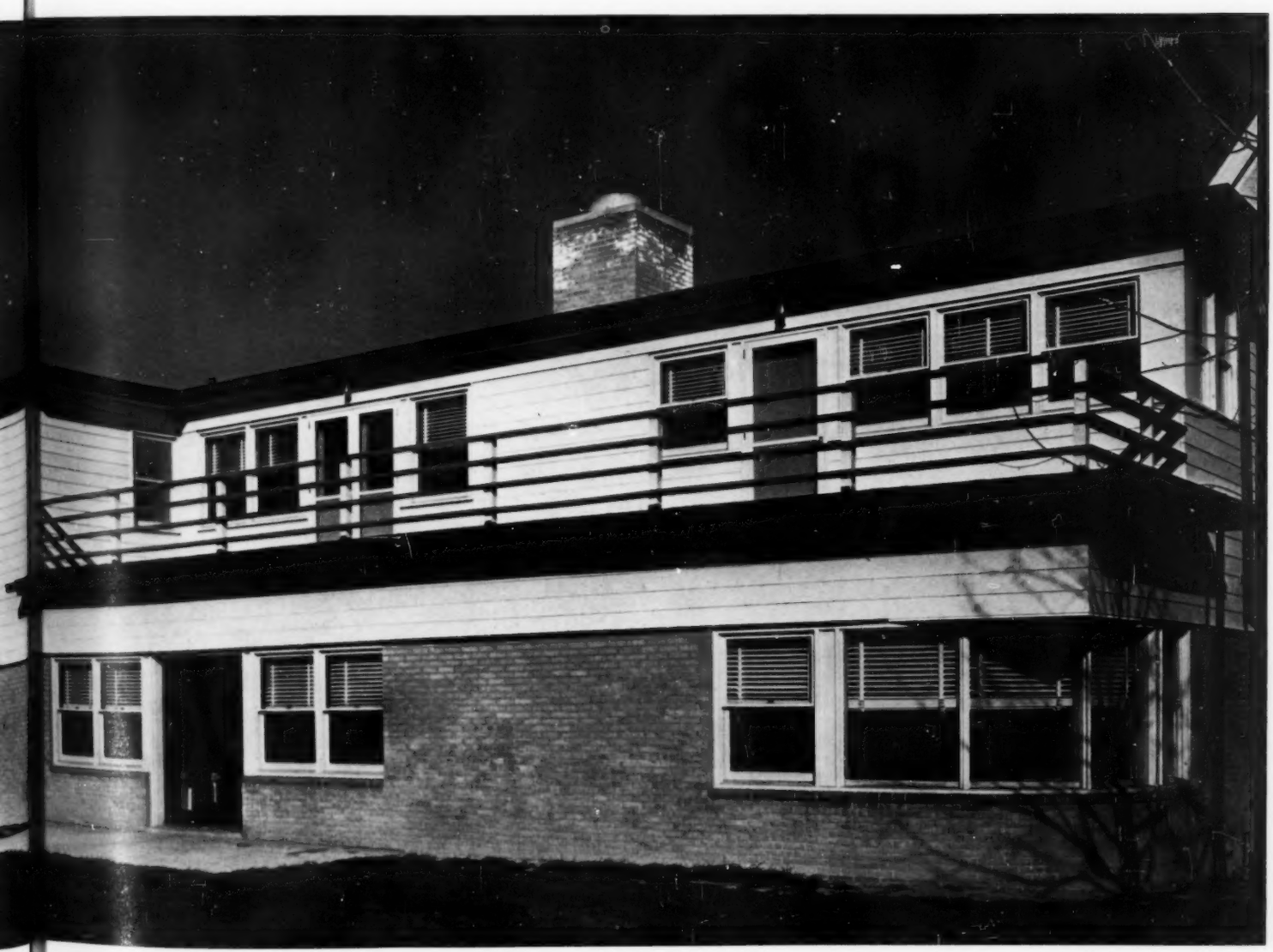
This multi-use structure was built for leisure-time use of families of 5,000 employees of the Bayway Refinery, Standard Oil Company of New Jersey; SEARS & FOOTE, Architects.

IN THIS NEW COMMUNITY CENTER, Standard Oil of N. J. and the Rockefeller interests provided facilities for all age groups. The entrance lobby is both a central control point and a lounge. Children's games take place in the first-floor game room. In the dining room, luncheon visitors are entertained and food prepared by children's cooking classes is served. The bowling alleys are used by a league made up of teams from the various departments of the refinery.

On the second floor is the Organization Room, for large club activities such as meetings, banquets, concerts, and dances; a locker room for men and boys; a card room for the older people; a club room for the use of women's groups; and a hobby room. The roof terrace serves both as a play area for small children and for evening dances in summer.

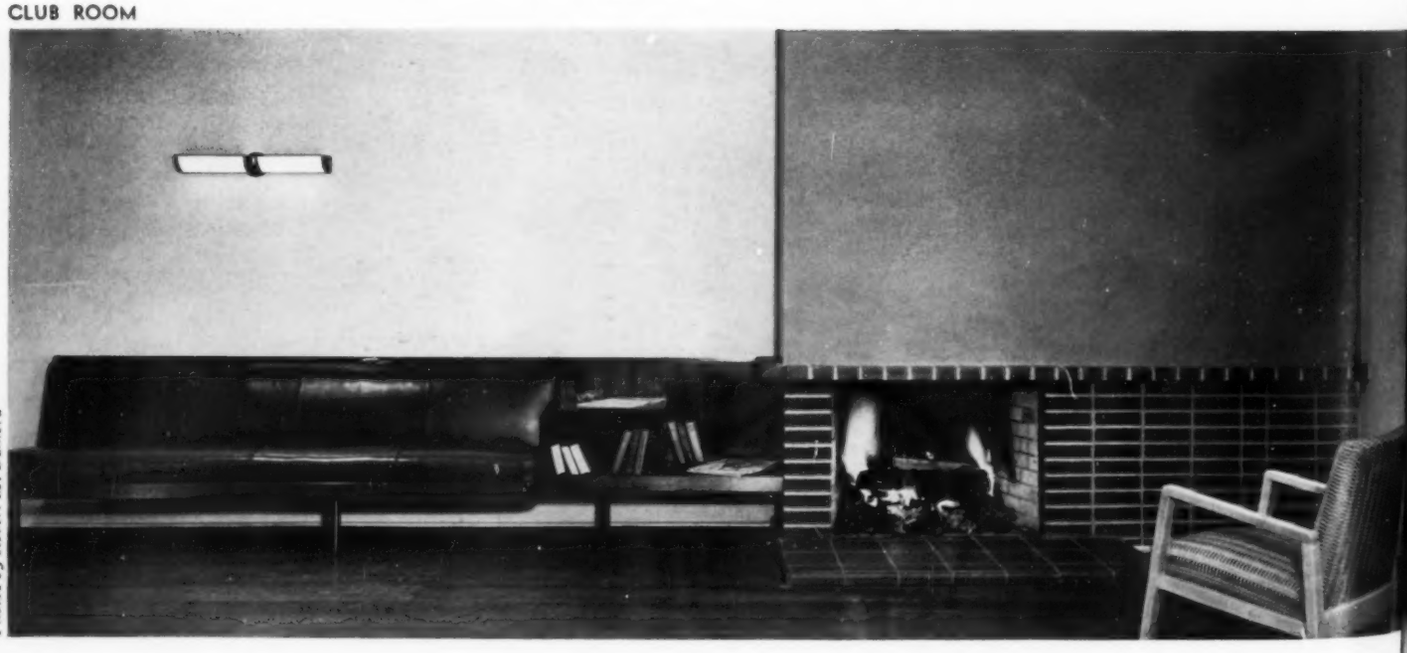


KITCHEN ENTRANCE



LOBBY

CLUB ROOM



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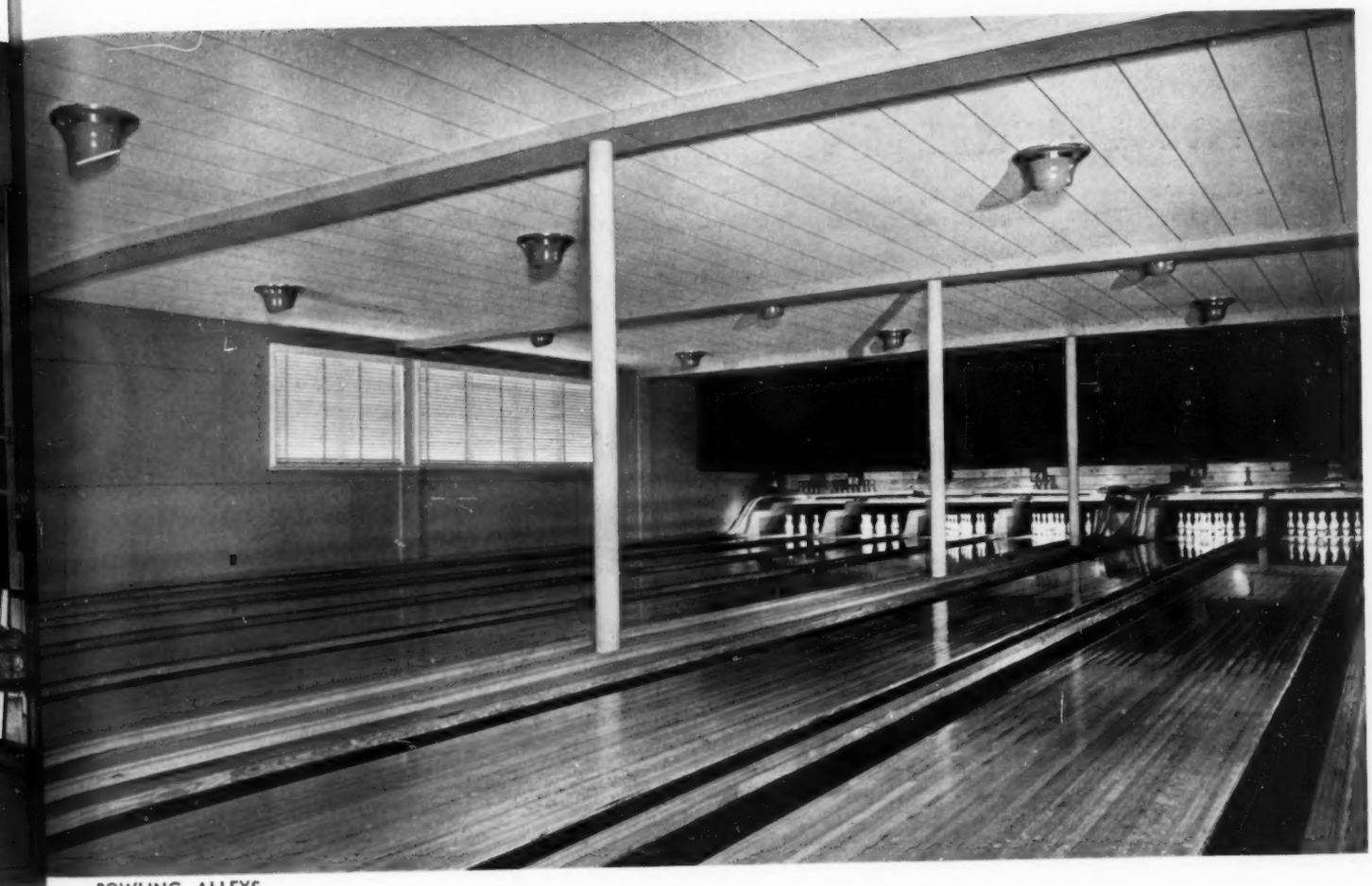


BOWLING ALLEYS

KITCHEN

LOBBY. Built-in furniture arranged for lounging. Windows overlook outdoor activities.

CLUB ROOM. Second-floor room for meetings of women's groups. Wall over fireplace, cobalt blue; remainder of walls, pale yellow.

BOWLING ALLEYS. Three pairs of alleys with space for a fourth. Walls and ceilings are of insulation board.

KITCHEN. For cooking classes and food for other club uses. The dumbwaiter serves the Organization Room above.

NEWS FROM WASHINGTON ON DEFENSE ACTIVITIES

Private architects' place still not officially defined; most likely to be in site planning and design adaptation. Use of prefab systems indicated — By Kendall K. Hoyt

OVER THE PAST month, war housing work under the initial 150,000,000-dollar Lanham Bill appropriation has moved forward as rapidly as could be expected against the delays in acquisition of sites and in planning normally to be met at the outset of a major housing program.

Beyond the funds earmarked for specific projects reported in the last issue, the Public Buildings Administration is proceeding quietly with additional work without announcing the sites, lest the costs be raised by local land speculation arising from news of the projects. Thus the bulk of the program has not yet reached the stage where local architects can be retained.

It appears that there will be little place for private architects in the actual design of houses since the unit requirements are believed to be about the same in all parts of the country, varying between two and three bedrooms per house. Where the architects will come in, if at all, is in the site plans and in adapting the standard designs to conform with local conditions as to climate, prevailing styles of architecture, and building regulations.

No answer on status of architects

President Edwin Bergstrom of the American Institute of Architects, flanked by representatives of the American Society of Landscape Architects and the American Society of Civil Engineers, has continued his efforts to clarify the place of the design professions in the program. But the official response is zero to date.

Meanwhile, the three associations have been drafting standards indicating the functions which members of each of the three professions should properly perform on a typical housing project. These standards are intended as a guide to Federal policy if approved by the governing boards of the association.

A good many of the Federal people are architects themselves and would like to see their colleagues in private practice have a fair share of the work. They can only express sympathetic interest and give no facts since the policy remains to be worked out by brass hats up the line.

Architects who write the Public Buildings Administration, however, are being asked to send in a record of their experience with data on their present organizations and facilities. Some 500 have done so. The returns are filed alphabetically and geographically so that if work develops in a given area, the responsible architects thereabouts can be called in.

Can Congress help?

In some quarters, it is thought that if an official determination as to where architects can actually serve in the program is not soon forthcoming, an effort should be made toward passage of a special act of Congress setting forth the terms under which they can be employed. Such a bill could not be considered until after the new Congress meets in January.

Although the House refused to let the present session adjourn after the election, the only item of business in the architectural line, as this is written, is the repair job on the roofs over the House and Senate chambers which the Architect of the Capitol has repeatedly warned were in a dangerous condition.

The only holdover bills in the housing field are the House measure to broaden the Home Loan Bank system for more widespread financing of homes through the building and loan associations, and the Senate-approved measure to give the U. S. Housing Authority another 800,000,000 dollars. Neither is expected to pass.

USHA, whose people have long been unpopular on Capitol Hill, does not appear to be in a position to push through any legislation in the tag end of the old Congress. Rumors as to reorganization, however, have not yet been substantiated. Although there has been frequent talk, and still is, that Nathan Straus will be replaced as Administrator, there are reasons for believing that he will remain, so that no drastic change in the organization is in sight, for the present at least.

Plans for prefab

A definite intention to experiment with prefabricated housing in the industrial defense program is expressed by Washington officials. Speed in construction, uniformity, reduced labor costs, and possible economies through mass production are of possible bearing as in all mass housing work. But even more important is the need for demountability.

Although it is thought that most of the Army and Navy housing will be permanent, as appears to be the case at most of the sites where work is being done, there will be many cases where the need is but temporary in the environs of industrial plants working on defense contracts. Mindful of the "ghost towns" which sprang up during the last war and remained tenantless as eyesores thereafter, the planners are looking for types of construction which can be taken down and salvaged for re-erection at other locations.

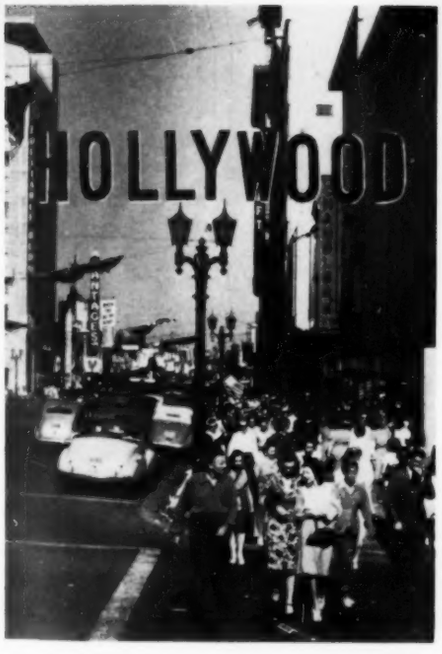
While there are now many dealers in prefabricated systems of construction, there are only a few basic types, some with steel frames and others with wood studding as supports for enclosing panels. Most seem adequate for one-story houses which prevail in the defense program.

Demountability

The feature of demountability has not been given much previous thought by the prefabricators themselves since there has been little demand for it. The prevailing opinion seems to be that 100% demountability is not economical, especially as to foundations which can best be laid with concrete or cinder block on the site. Otherwise, there are many individuals who advertise prefabricated materials for entire houses, complete with plumbing. There are 153 dealers for one system alone.

Careful studies of the prefabricated field have been made by the Advisory Committee on Engineering and by a special committee set up by C. F. Palmer, Defense Housing Coordinator. The plan has not yet reached the stage

(Continued on page 100)



HOLLYWOOD TACKLES THE PARKING PROBLEM

It is one thing to determine a course of action necessary to pump new life into a shopping center. It is quite another to persuade merchants and property owners that the cost of the plan is an investment that is necessary to prevent loss of business to the merchant, lower rentals to the landlord. The Hollywood (Calif.) Chamber of Commerce, faced with this problem, is lining up merchants and property owners behind a plan to attract more shoppers through improved parking facilities. How they approached the task of getting near-perfect co-operation is told in this story by DON TAYLOR.

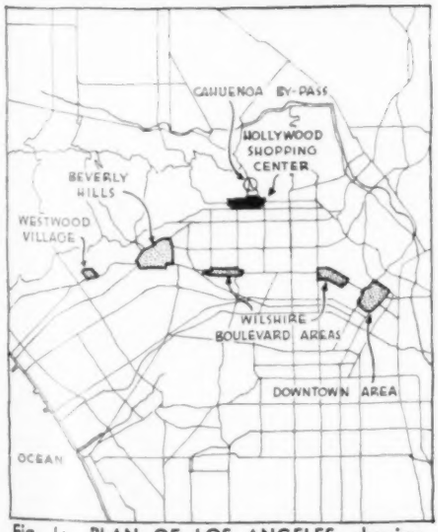


Fig. 1: PLAN OF LOS ANGELES, showing location of Hollywood in relation to rivals

HOLLYWOOD, second largest shopping center in the Los Angeles area, developed like most American cities without benefit of planned control. It stretches along Hollywood Boulevard, a solid front of stores, shoulder to shoulder, for the better part of a mile. Business frontage on side streets and parallel streets, with very few exceptions, is almost negligible.

Like all Southern California shopping centers it draws trade from a radius of many miles and most of its customers come by automobile.

Although the center has more or less kept pace with the average rise and fall of business in the metropolitan area, its future is threatened not only by congested traffic conditions, but also by inadequate parking facilities and the untidy appearance of many parking areas, distasteful to better-class patronage. Further, many parking areas must be considered to be on a temporary basis because their owners believe them to be potential business sites; and if present vacant sites are built up, further harm will result from an aggravated parking problem.

Merchants are bringing pressure to bear on landlords because they can't maintain present rentals on the basis of present sales volume. The problem of attracting more business, therefore, acutely concerns property owners because while *they can't move*, merchants can!

Congested traffic is being eased by major highway and intersection improvements (fig. 1), and through traffic is to be diverted. But it is evident that the key to the whole problem is parking and it is to this factor that the Hollywood Chamber of Commerce is giving its attention.

HOLLYWOOD PARKING PLAN

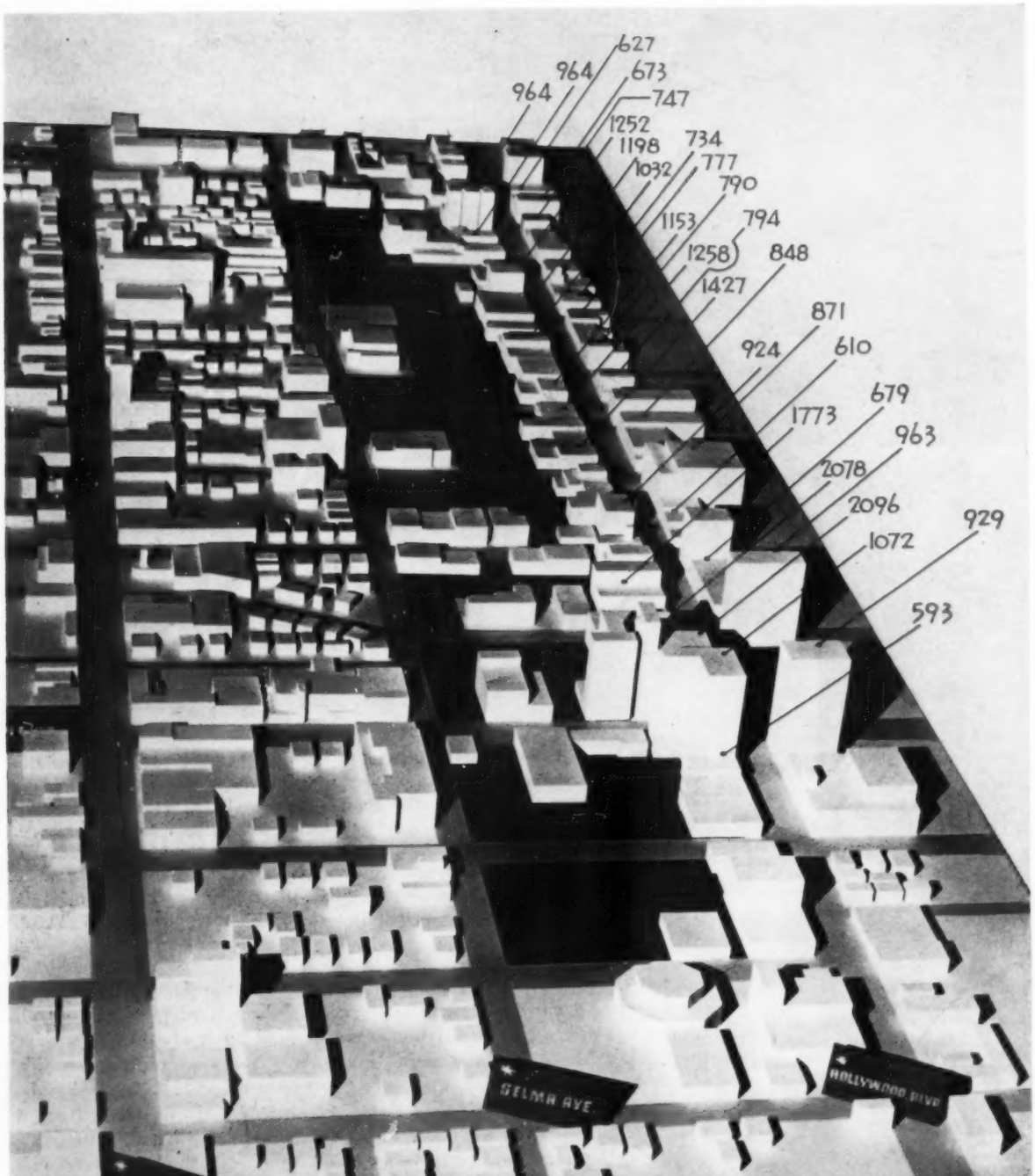


Fig. 2

SOME OF THE COUNTRY'S MOST VALUABLE real estate lies along the dozen-odd blocks of Hollywood Boulevard which are shown in the scale model (Figure 2) prepared by students of University of Southern California's architectural department. Figures represent assessed valuation per front foot. Shown in black are the areas proposed for parking. At right are two proposed layouts—the first (Figure 3) discarded in favor of the safer and more economical second (Figure 4).

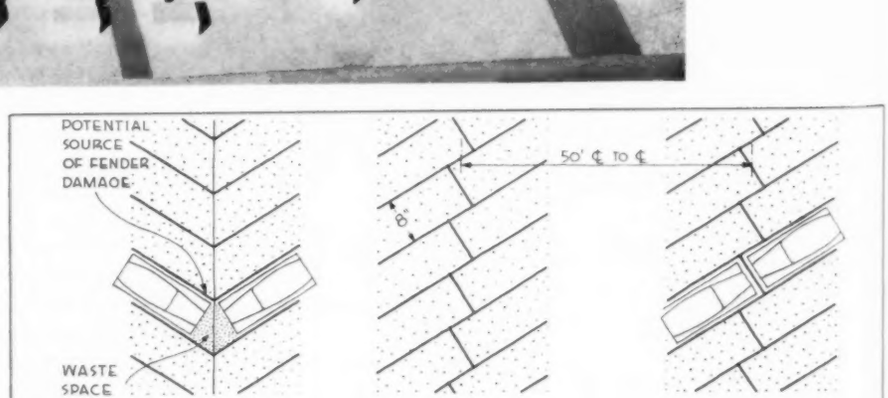


Fig. 3 Fig. 4

ARCHITECTURAL STUDENTS AID IN "VISUALIZATION" OF PROJECT

Main problem was to develop a plan of organization that would weld together the various merchants, property owners, and operators of parking lots in the district. But before this could be done it was necessary to envision the physical aspects of the project in order to determine costs and to help "sell" the plan.

Assistance of architects and especially of the College of Architecture, University of Southern California, was sought with regard to efficient layout and harmonious, economical landscaping of parking lots, and improvement of elevations of structures abutting on the lots. The University used the problem as an instructional project for students, and prepared scale models of the district and of typical individual parking areas and abutting structures. (Figs. 2, 3, 4, 5.)

In calculating potential lot capacities it was found that 165 sq. ft. were necessary per car when parking was handled by attendants, while 275-300 sq. ft. per car were advisable when done by customers.

In cases where low-rental-value sites make the more wasteful customer parking economically feasible, a not inconsiderable saving of 24 sq. ft. per car was effected by the arrangement shown in Fig. 4 instead of the more common herringbone arrangement, Fig. 3. This layout also lessens hazard of dented fenders due to careless parking. In the case-study lot (Fig. 5), the change from herringbone layout to the type in Fig. 3 increased capacity from 258 to 302 cars. (Capacity of this particular lot was further increased to 360 cars by better arrangement.)

Because of the length of time the average car is parked during shopping (see Fig. 8), and consequent low turnover, it is not necessary to provide generous entrances and exits as, for instance, in a market where average parking time is much shorter. Elimination of unnecessary adits and exits increases capacity.

General specifications for all parking areas include over-all paving with stalls painted on the surface. (Curbs between stalls and all low barricades are eliminated to reduce stumbling hazard.) They call for installation of two 500-watt lamps on 20-ft. standards every 50 ft. in every bank of cars, and provide 8-ft. stalls in banks on 50-ft. centers.

A uniform system of landscaping is being developed in which plants and shrubs are grouped into sizable units rather than scattered in small units. With this arrangement one gardener can take care of all parking lots in the shopping center. Trees, when used, must be trimmed to give minimum clearance of 5 ft. 6 in. under lowest limb. (See Fig. 6 for costs.)

WHY EARLIER PARKING PLANS FAILED

Primary purpose of the plan is to provide community-wide free parking to customers of *all* shops in the center. A previous community-wide parking plan in which customers' parking charges were paid by *merchants* proved unsatisfactory. The previous plan involved issuance of stamps which were purchased from the Chamber of Commerce by co-operating stores (about 60% of all merchants) and affixed to the customers' parking tickets at time of purchase of $1 or more. The stamps had a face value of 5 cents and were accepted as such at co-operating parking lots which were, in turn, reimbursed by the Chamber of Commerce. Co-operating stores and parking lots were identified by an emblem. This validation was usually on the basis of one hour's free parking per store so that customers could park free for an almost indefinite length of time without cost if they made purchases in a sufficient number of stores. This has proved unsatisfactory for many reasons: (1) not all stores and parking lots co-operated, hence the primary purpose—community-wide free parking for customers of *all* shops—was defeated; (2) stores had no voice in management of lots, could not effect improvements; (3) co-operating merchants were penalized because they paid parking expense for customers who also patronized the holdouts but got their tickets validated at Stamp Plan stores; (4) certain stores which ostensibly participated in order to attract trade, shunned this accommodation as much as possible to save expense, whereas co-operating stores even went so far as to instruct clerks to suggest validation to customers. This meant that a major part of park-

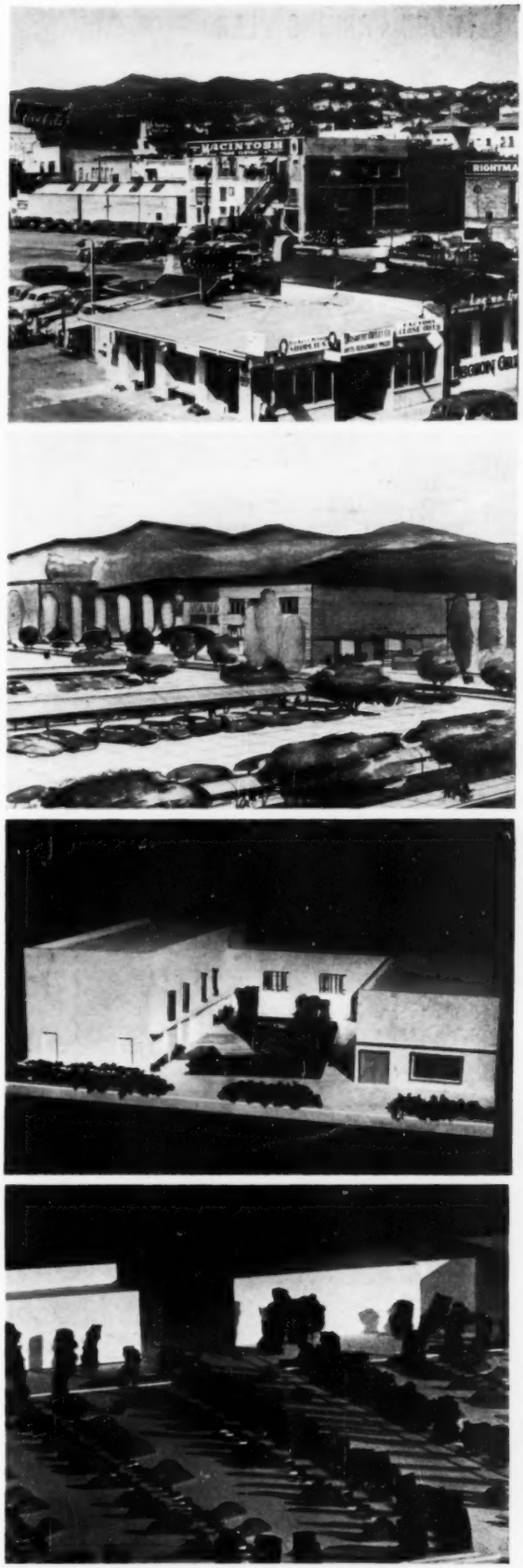


Fig. 5: CASE STUDY OF SPECIFIC BLOCK showing present condition (top); how parking lot might be developed (center); and suggested reconstruction of building's rear (bottom). Scale model of entire block using one of the earlier and less economical parking layouts.

Paving—101,442 sq. ft. @ 2¢/sq. ft.		$2,028.84
Curbing—2,316 ft. @ 60¢/linear ft.		1,389.60
Fencing—382 ft., 12-ft.-high wire @ $1.20/ft.	$458.40	
1,090 ft., 6-ft.-high wire @ 65¢/ft.	708.50	
		1,166.90
Walks—1,052 ft., 6-ft. wide (6,312 sq. ft.) @ 10¢/sq. ft.		631.20
Planting — 4-ft. strip along fence—1,472 ft. @ 30¢	$441.60	
15 small triangles @ $7.50	112.50	
7 large triangles @ $10.00	70.00	
		624.10
Lighting—40 standards, 50 ft. apart @ $15.00 (Standards 20 ft. high, and with two 500-watt lamps in special reflectors in each.)		600.00
Total		$6,440.64

Fig. 6: TOTAL IMPROVEMENT COST OF CASE STUDY shown on p. 47 indicates that plan is economically feasible.

Purchase per Validation in Various Outlets

Type of Store	Sale/Parking Ticket Validated
Department store (medium-price merchandise)	$9.96
Large department store	18.97
Men's apparel store	30.48
Women's apparel store	31.78
Furniture store	31.77
Highest average purchase of any store (a men's shop)	47.60
Average of all stores	17.45

Fig. 7: ANALYSIS OF PURCHASE PER PARKING TICKET showed an average of $17.45, while pedestrian purchases from the street averaged only $6. Note wide variation of purchase by type of merchandise.

Time Parked	Percentage of Customers
1 hour	11%
2 "	42
3 "	19
4 "	17
5 " and more	11

(The survey also revealed that 52% of parking-lot customers used validated tickets.)

Fig. 8: OVER 60% OF ALL CUSTOMERS using parking lots "stayed put" for between two and three hours.

ing expense was borne by a few public-spirited merchants.

Under the new plan the cost will first be borne by landlords on a percentage-of-rentals basis but is expected to be returned in increased rentals through better business generated. (Rentals are generally based on sales volume.) Most merchants well know that it pays to park their customers; know, too, that even a small increase in sales means a big increase in profits*—and realize that better parking facilities result in better sales.

However, in order concretely to demonstrate the value of parking-lot service, checks were made in many stores to determine the average amount of purchase per validated parking ticket. Results varied widely depending upon the individual store but all indicated that the average validation cost (7½ cents) was a worthwhile investment. (See fig. 7.)

A postcard survey of daytime parking-lot customers was used to determine average length of parking time and amount spent during that period. Curb-parked cars were also queried. It was also shown that average purchase per parking-lot customer was more than double average purchase of street-parked customer (street average, $6; parked in lots, $17.45).

THE NEW PLAN

The plan involves creation of a non-profit corporation of all Hollywood Boulevard property owners which will pay all co-operating parking-lot operators for all tickets validated. It will provide free parking in *any* lot to every shopper, regardless of where she shops or where she parks. Knowing the total number of customers to be accommodated, knowing further the relative distribution of these customers over the parking lots, the corporation can execute contracts with parking-lot operators agreeing to deliver a specified minimum of contracts over a set period of years. Adjustments in rates of compensation per car are made on the basis of the relative gross rental values of the lots as indicated by assessed valuation. In return for the income guaranteed, the corporation stipulates improvements to be made in conformity with the master plan.

It is so much to the advantage of every landlord to co-operate that at this early date nearly unanimous accord has been reached. Similarly, owners of vacant properties (now parking lots) find it more profitable to maintain the status quo than to construct new buildings which would further aggravate the parking situation. Tenants of landlords who decline to join the corporation would be excluded from privileges of the plan, and must arrange and pay for other parking arrangements, while their competitors would have their parking costs paid by their landlords.

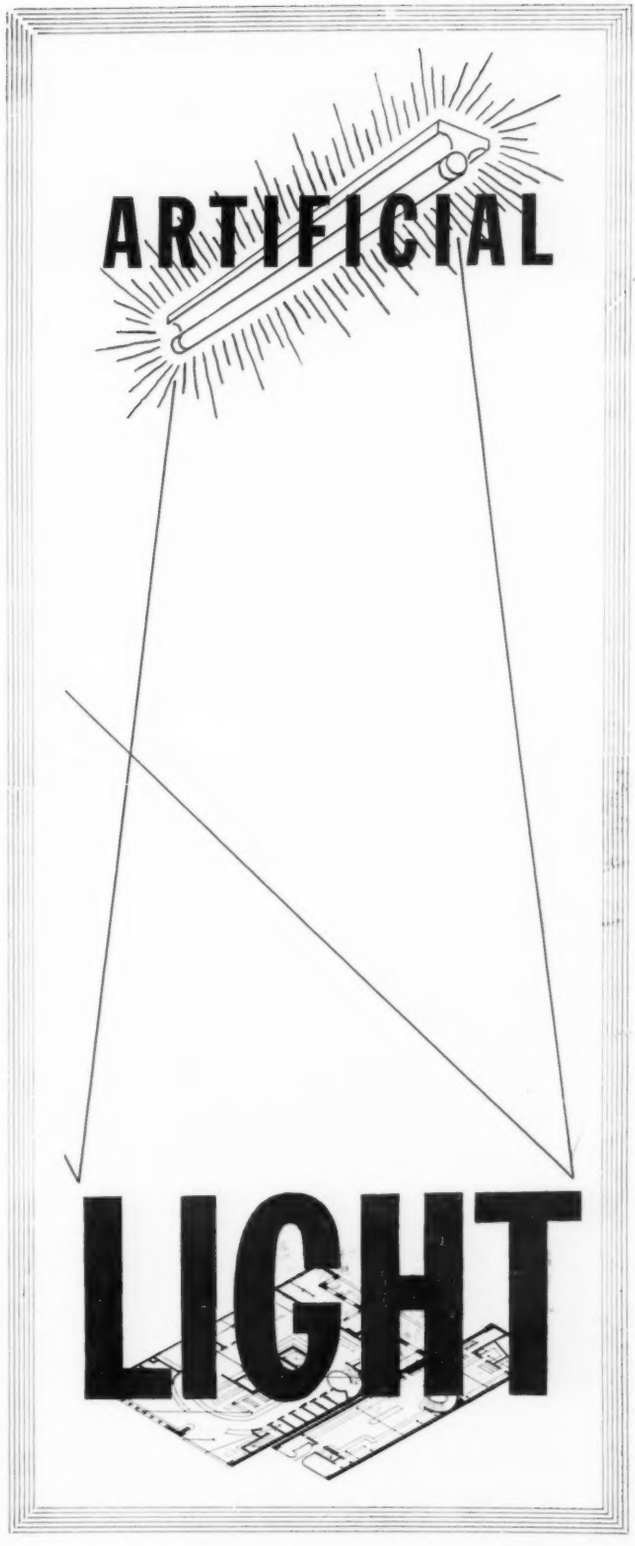
By estimating the total number of customers to be accommodated in the whole shopping center during the year and calculating total annual rental in the center and total cost of parking, it was determined that an assessment of approximately 8% of rentals (about one-half of 1% of sales) would provide 3 hours of free parking for every customer.

Gradual accumulation of a surplus is planned which may be used to buy up privately owned parking lots so that they may be beautified and controlled directly by the corporation, and to purchase strategic properties now occupied by unprofitable structures so that they may be converted into additional parking lots controlled by the corporation. California law permits condemnation of property for parking purposes in the same manner as for street right-of-way, etc. However, the association does not intend to foster such condemnation except as a last resort because it vests control of areas so acquired in the city instead of the corporation.

Rubber-stamped validation on the back of parking tickets will entitle the customer to a reasonable amount of free parking (probably 3 to 4 hours) in virtually any parking lot. Validation will be made in the stores at time of purchase. The parking-lot operator will then charge the Chamber of Commerce (acting for the corporation) for the parking toll due on the validated ticket, thus, in effect, receiving his money from the corporation (via the Chamber of Commerce) instead of directly from the customer.

*Harvard Graduate School of Business Administration reports that retail dry-goods sales last year increased 5½%, profits 45%!

The Integration of NATURAL AND ARTIFICIAL LIGHT



Only the architect, in the last analysis, can achieve that correct integration of artificial and natural light which modern building demands. In this, the first of two studies, MR. HANS BLUMENFELD surveys many complex factors involved

OLD CHAMBERS* evidently thought only of natural light. In his days artificial light was merely a weak competitor of darkness; only a generation ago it became a competitor of daylight; today, the position is reversed and natural light is a competitor of artificial illumination, asked to show cause why it should not be replaced by its younger brother. The architect is faced with the new problem of weighing their respective merits and coordinating their effects. It is no longer possible to design for daylight only, and let artificial lighting take care of itself. If it is true that there cannot be too much light, it is equally true that it must be the right kind, and in the right place. Both are interrelated in many ways; to mention only the most important:

(1) Artificial light should approximate daylight in brightness, direction, and color, wherever a room is used at night the same way as it is in daytime (fig. 1).

(2) In many cases artificial light is necessary to complement natural light.

(3) Transition from natural to artificial light, both in time and in space, should be achieved smoothly (fig. 2).

(4) Where natural light comes in, artificial light goes out.

Light, an unknown quantity

Practically all sources of light emit also radiant energy at wave length both longer (infrared) and shorter (ultraviolet) than those visible to our eyes. All of these affect our health and must be controlled; our main interest, however, is in those rays which possess the strange faculty of evoking in our eyes the sensation of light, enabling us to see.

Light, being a subjective sensation, can not be objectively measured. All the "lumens", "footcandles" (f.c.), etc., so freely used by the illuminating engineer, really measure certain amounts of radiant energy at certain wave lengths, which are expected to evoke equivalent sensations in the eyes of that mythical person, Mr. Average. Because seeing is a mental act based on a physiological process, there can be no hard and fast rules for illumination, and no cure-alls.

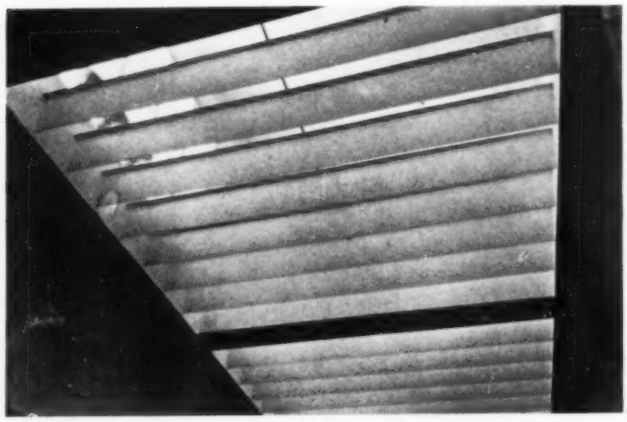
The development of the human eye has been conditioned by natural light for millions of years before it became human, and for scores of millions before it became an eye. It is therefore wise to follow natural conditions as closely as possible. The almost unlimited possibilities of artificial illumina-

"In dwelling houses, and all places where pleasure is the main purpose, there cannot be too much light."

WILLIAM CHAMBERS, 1759
(A Treatise on Civil Architecture)

Courtesy "Das Werk"

Fig. 1: AT NIGHT THE REFLECTED LIGHT from the white curtain produces exactly the same shadows as does light from the window in daytime.

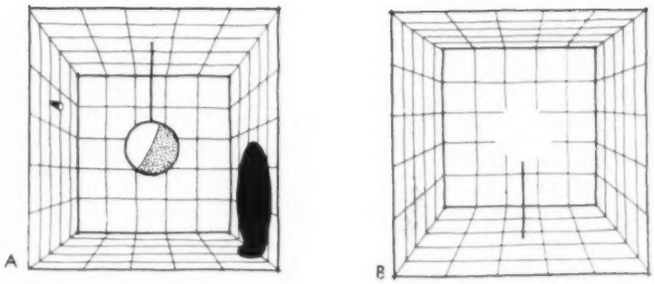


Sturtevant

Fig. 2: ARTIFICIAL LIGHT, installed above the skylight, merges with daylight.

Courtesy "Glass in Architecture and Decoration"

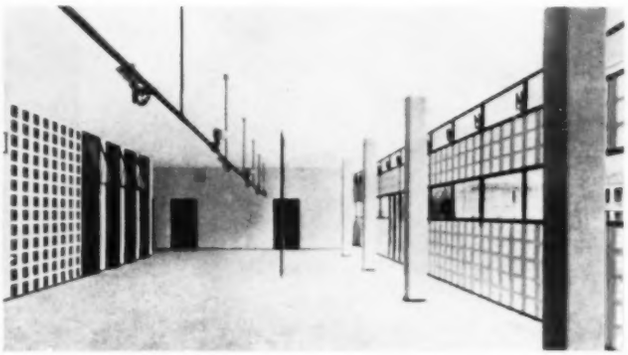
Fig. 3: AT NIGHT THE RIBBON WINDOWS do not light the factory, but the street. Looks fine, but a tremendous amount of light is wasted.



POINT SOURCE OF LIGHT. Harsh shadows; discrimination of detail impossible; cast shadows confuse form.

UNIFORM LIGHT FROM ALL SIDES makes shape disappear entirely.

Fig. 4: EXTREMES IN LIGHTING



Courtesy "Architectural Forum"

Fig. 5: THIS HALL APPROACHES VERY CLOSELY the ideal illumination. Note absence of cast shadows and soft shadows on columns near glass wall.

Fig. 6: THE IMPORTANCE OF A DISTANT VIEW. An occasional view out of the window (above) affords the eyes an opportunity to relax by adaptation to distant vision. A room without a view (right) condemns the eyes to constant near vision, resulting in eyestrain.

Gottscho

Fig. 7: PHOTOMURALS SUCH AS THIS are stimulating to the mind, but do not afford relaxation from near vision, as would the "real thing"; instead they increase eyestrain.

tion should not lead to a deviation from this rule without good reason, certainly not in rooms for permanent use.

The luminous environment

We did not develop the ability to see just for the fun of it, but in order to grab, and to avoid being grabbed. The good, the true, and the beautiful light is the light that enables us to perceive real bodies. We want to perceive their exact size, shape, and distance, and perceive them safely, easily, and quickly.

Primarily we do not see bodies, but just surfaces, varying in shape, brightness, and color, and laid out on the inside of a perisphere, of which our eye is the center. As every surface in this visual perisphere emanates light, control of light means control of the entire luminous environment, though only a part of it is visible at one time. This part, called the visual field, centers around the axis of vision, extending about 100° to either side, and 50 to 70° respectively upwards and downwards.

In the process of perception shadows are our main guides. Two extremes must be avoided: A perfectly uniform brightness (and color) of the entire visual field would make all objects invisible. With the limited means formerly available this was not likely to occur, but with modern methods of illumination it has become a danger to be guarded against (fig. 4b). On the other hand, excessive contrasts make discrimination of details in the shadow impossible (fig. 4a).

In general own shadows tend to clarify form, while cast shadows tend to confuse it. A very extended source of light, occupying about half the perisphere, practically eliminates cast shadows, while it emphasizes plastic form by soft own shadows (fig. 5).

Only at close distances is perception not entirely dependent on mental processes translating two-dimensional images into bodies, but receives three-dimensional impressions by the physiological acts of focusing and convergence. Changes in focus—or accommodation—are noticeable at distances under twenty feet, while convergence of the two eyes operates even at distances of several hundred feet: Converging and focusing apparatus co-operate automatically, adapting the eyes to the distance of the object.

The importance of a distant view

The eyes having been developed for frequent changes in distance adaptation, mostly for objects far away, it is little wonder that eyestrain is caused by continuous adaptation to the close tasks imposed by civilization. The strain is relieved by looking at distant objects from time to time, even if it be only for a few seconds. This relaxation is usually achieved by looking out of the window (fig. 6).

Generally this physiological function of the distant view is overlooked and the desire to "look out" is attributed to a mental urge only. Hence ugly views are deemed worse than useless and are excluded. They do afford some relaxation, however, though this may sometimes be partially offset by depressing effects on the mind. Certainly the mental influence of a cheerful view is also very important; but if it were alone to be considered, an actual distant view might be replaced by a mirror, or by a photomural or a painting. While these may be very stimulating to look at, and quite appropriate in rooms for transient use, such as a foyer (fig. 7), they can never replace the "real thing." Instead of affording relaxation from near-vision adaptation, such a "trompe d'oeil" makes matters worse by seducing the eyes to accommodate for distant vision. This results in a blurred image, causing serious eyestrain.

The popular preference for the traditional window is not to be hastily discarded as a sentimental hangover from the pre-electricity age. The possibility for distance adaptation is a constituent element of good seeing. This fact should never be forgotten in comparing lighting through windows with artificial illumination, and also with the use of skylights, translucent walls, etc.

Without a view out of a window a degree of distance adaptation is possible in large rooms, provided that the view of the end of the room is not obstructed by glare. Therefore equalization of surface brightness is far more important with artificial lighting than it is with daylight received through windows. At distances less than 20 ft. no satisfactory visual relaxation is possible; it is hardly an accident that rooms are generally considered small if their greatest dimension does not attain this minimum.

Means of control

The great advantage of artificial light is the possibility for almost perfect control. Subject to control are *three basic qualities of light:* (1) intensity, (2) direction, (3) color. These three qualities are controlled first by the source of light, which is out of reach in the case of daylight. They are further dependent on transmittent and reflecting media, which may absorb, redirect, or diffuse all or part of the light received from the original source, and which may be used as well with natural as with artificial sources. Briefly our *means of control* may be summed up as follows:

(I) SOURCES.

(A) Natural.		(B) Artificial.
(1) the sun	*point source*	(1) incandescent filaments
(2) the sky	*extended source*	(2) luminescent gases
		(3) fluorescent coatings

(II) MEDIA.

(A) transmitting		(B) reflecting
opaque	*absorbing*	black surface
prismatic	*redirecting*	specular surface
translucent	*diffusing*	mat surface

All lighting fixtures and systems are composed of these elements. Once this is realized, they can easily be analyzed and compared. The frosted and silvered-bowl lamps, for instance, combine a point source with a diffusing transmittent or a specular reflecting surface respectively. Enclosing globes are always transmitting surfaces, either diffusing or redirecting. In cove lighting the light of a point source is first redirected by a specular reflecting surface towards the ceiling, which throws it back into the room by diffusing reflection. A mirror, specularly reflecting the diffused light of the sky, uses the same elements in reverse order.

In most cases the desired result can be achieved by more than one combination of these three basic means: choice of source, transmission, reflection. A ceiling panel of specified shape and brightness may consist of rows of fluorescent tubes, or of a skylight of opalescent glass, or of a reflecting surface lighted from below (fig. 11). Similarly a yellow wall may be realized by throwing on a white wall light from a monochromatic yellow source, such as sodium light, or from green and orange sources; or by filtering white light through a yellow glass; or by painting the wall yellow.

Sunlight and skylight

In daytime light may be received from the sun and from the sky in greatly varying proportions. On a clear day, with the sun at the zenith, about six times as much light is received from the sun than from the entire hemisphere of the sky; with the sun standing 10° above the horizon, the amounts from both sources are about equal. A hazy sky is several times brighter than a clear one, and of the same white color as the sun, while the light from a clear sky is very poor in yellow and red rays, and calls for correction by addition of reflected sunlight (figs. 12 and 13).

Artificial sources of light

Incandescent bodies, such as the tungsten filament lamp, emanate light of high brightness and may be regarded as point sources. The same holds true of open arcs, as used in the carbon-arc lamp, and of enclosed high-pressure arcs, as represented by some mercury-arc lamps. The light from such sources may easily be redirected by reflectors with a loss of no more than 10%.

In low-pressure arcs, the source of light is also a luminescent gas, such as neon. In fluorescent tubes a paint or coating emanates light based on the low-pressure mercury arc. These tubes are extended sources of low brightness. Redirection of their light by reflectors is more difficult and involves a loss of about 30%. They may, however, be used as directly visible sources in large rooms, where they are not too close to the eye. Fluorescent paints are also used on walls, carpets, etc. They are a very extended source of very low brightness, normally insufficient for illumination and restricted to decorative and theatrical uses.

While neon and similar tubes may be made of practically any length and bent at will, fluorescent tubes are as yet restricted in shape and size.

Compared to incandescent lamps, fluorescent lamps use about one third of current, and live more than twice as long. Against this must be held higher cost of the fixture, and higher expenses for cleaning. At current utility rates these factors seem about to balance. It is too often forgotten that the first cost of a fixture is usually only a fraction of the annual maintenance cost, which is composed of: (1) replacement, (2) cleaning, (3) electric current.

The first two items enter also into the calculation of maintenance cost of daylight. The last item is furnished freely by the sun, but its place is taken by the need for cooling.

Color

The most striking difference between the various sources of light is their color. Color is the sensation by which our eye registers differences in wave lengths of radiant energy; sensitivity to these differences varies widely for various individuals. Furthermore, in one individual identical sensations may be evoked by an infinite number of combinations of various wave lengths. At low brightness our eyes are more sensitive to short—blue and violet—rays than to long ones. Therefore so-called "daylight" lamps are white only at high brightness, but bluish when they are dim, and should be used with discrimination. With artificial light it is generally safer to err towards the longer than towards the shorter end of the daylight spectrum.

The incandescent lamps have a continuous spectrum similar to that of the sun, but with a greater percentage of long rays. With increases in temperature the peak shifts towards the shorter rays. The hotter the filament, the cooler—and brighter—the light; therefore high wattages are much more

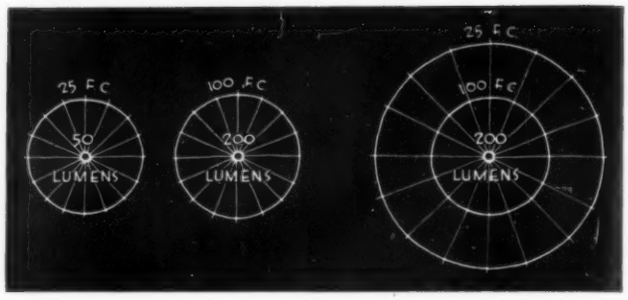


Fig. 8: INTENSITY OF ILLUMINATION (measured in footcandles—f.c.) depends on: (A) intensity of source (measured in lumens), (B) distance from source. Decreases in proportion with square of distance.

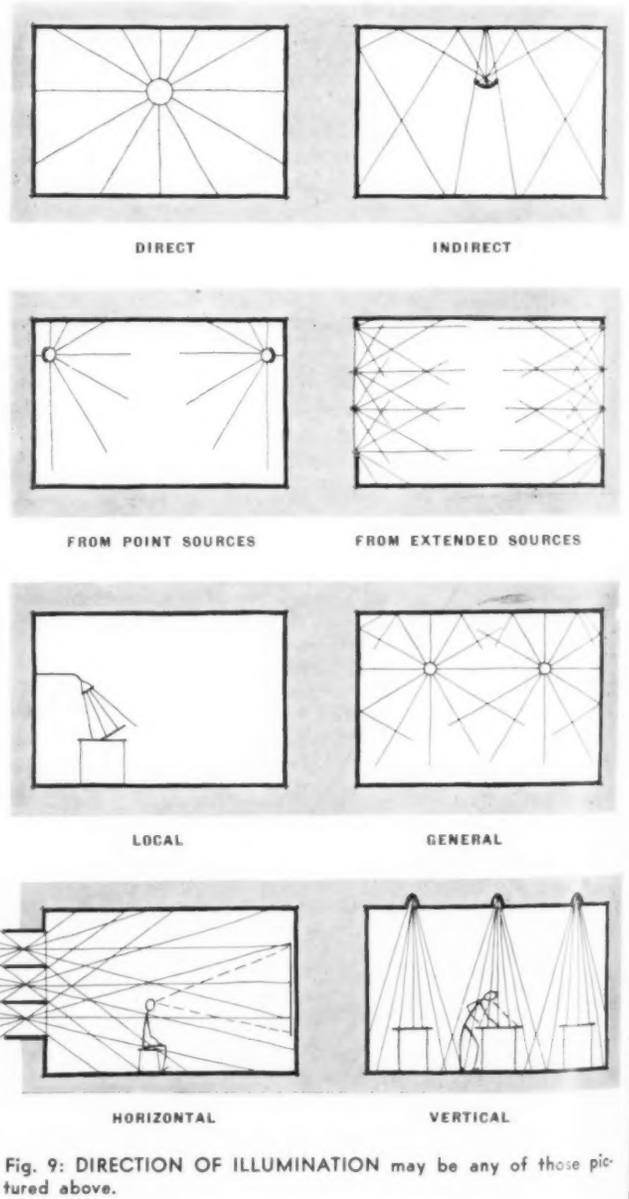


Fig. 9: DIRECTION OF ILLUMINATION may be any of those pictured above.

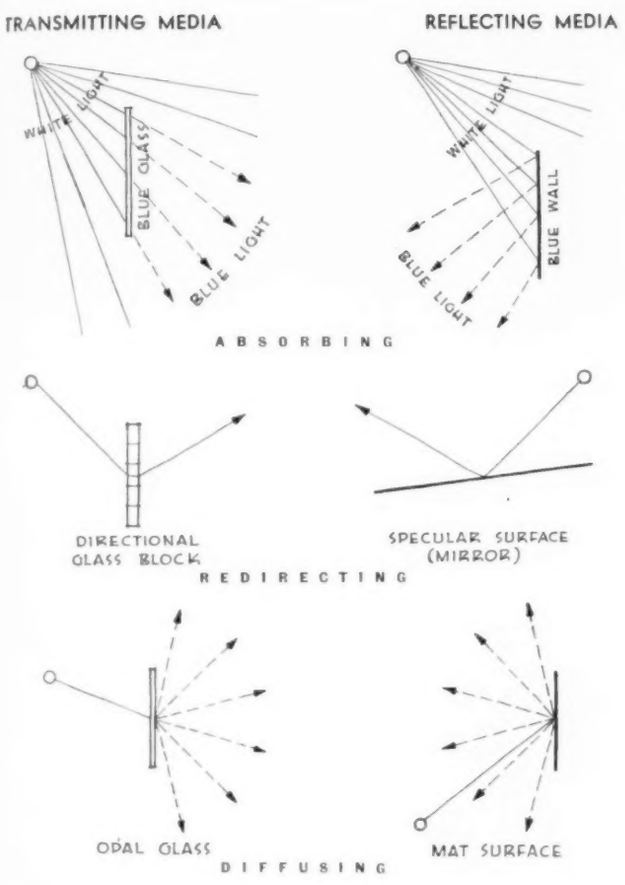
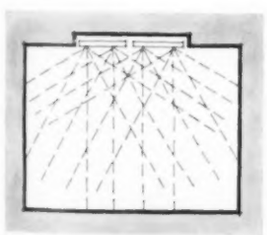
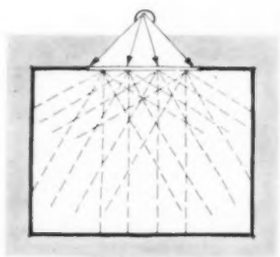


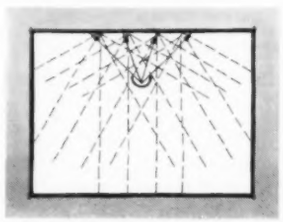
Fig. 10: THREE WAYS OF FILTERING LIGHT.



CHOICE OF SOURCE: rows of fluorescent tubes recessed into ceiling



TRANSMISSION: light from point source transmitted through evenly diffusing opal glass



REFLECTION: light from point source reflected from an evenly diffusing mat white ceiling

Fig. 11: THE SAME EFFECT, that of a ceiling panel emanating light, achieved by three different methods.

economical than low ones. In order to match daylight, however, even with the highest wattage, more than three quarters of the total light of the bulb has to be filtered out. This means not only increased expenses for current, but also increased heat.

The old carbon-arc lamp produces a fairly white light. Cored with certain compounds, it emanates a spectrum more nearly like the sun's than do other artificial sources. As the flicker and noise that once eliminated it from the field have been overcome, the carbon-arc may possibly come back.

The neon, sodium, mercury-vapor, and other enclosed-arc lamps have discontinuous spectra, consisting of a number of "lines". These are strongly modified by changes in voltage and pressure, becoming more continuous as pressure increases.

Discontinuous spectra may cause unpleasant surprises. A light resembling daylight when reflected from white surfaces, may strongly affect some other colors. This is the case with the low-pressure mercury arc, which is overdosed with blue and yellow, but poor in green, and deficient in red: against this is the fact that the tubes are cool.

Fluorescent tubes, based on the mercury arc, share these characteristics, but modify them by filtering through the fluorescent coating. Addition of warm incandescent light to the spectrum of mercury-vapor or fluorescent lamps is usually the best way to match the color of daylight.

Light of a single wave length—monochromatic light—has the advantage of eliminating the phenomenon known as chromatic aberration, which slightly blurs our vision in any light having a continuous spectrum, such as daylight. Actually objects can be seen more clearly in sodium light, which is monochromatic yellow.

Both translucent colored bodies and reflecting colored surfaces act as selective filters, absorbing all light waves of other colors than their own. They produce colored light by deduction, with a corresponding loss of brightness. The loss amounts to about 50% for most pale colors and for pure yellow, and to about 90% and more for saturated colors. Mixing the light of luminescent gases of different colors produces color by addition, the resulting brightness equaling the sum total of the brightnesses of the sources. This opens up new perspectives: perhaps we will soon come to mix our light according to our personal taste.

Care must be taken to avoid twilight, which is light from two sources of different color, which have not mixed. It occurs frequently when the very blue light of the evening sky meets the yellow light of an incandescent bulb (fig. 14).

Where artificial light is used alone, much is to be said for the natural continuous spectrum of the filament lamp, which is identical with the spectrum of the sun seen through a thick layer of air.

General brightness

The human eye has an almost unlimited ability to adapt itself to brightnesses varying from one to ten million units, but efficiency and ease of seeing increase greatly with increasing brightness. The improvement is very great up to 15-20 f.c., substantial up to 50 f.c.; above this limit it decreases, but remains distinctly noticeable.

These facts furnish the base for the standards accepted for artificial lighting: general illumination of 15-20 f.c. for ordinary tasks, about 50 f.c. for rooms where work is done on close tasks such as sewing, drafting, etc., plus local lighting where higher brightness is needed. These brightnesses can easily be achieved at reasonable cost with both incan-

descent and fluorescent light installations of many sorts.

They are rarely achieved in daylighting. The sun being an exceedingly unreliable source, any calculations of daylight must be based on the light of the sky. For this purpose the daylight unit has been evolved, meaning the amount of light received on a horizontal surface from 1% of the hemisphere of the sky. A simple construction will show how many daylight units are available at any point of a room.

According to the changing brightness of the sky, the light of a daylight unit varies from zero to about 20 f.c.; 6 footcandles is a safe average. With the current standard of window surface equal to one seventh of floor surface the darkest part of the room receives no more than one or two daylight units, resulting in 6-12 f.c.; varying according to the shape of the room and the brightness of walls and ceiling.

If natural lighting is to stand up in competition with artificial illumination, the unobstructed window surface must extend to about one-third of the floor surface; this would result in 15-25 f.c. at the darkest point of the room. In schools, offices, etc., practically the whole wall will have to be of glass, in order to guarantee a brightness of about 50 f.c. throughout the room (fig. 15).

Brightness distribution

It is often said that such large windows would be glaring. But glare is seldom, if ever, the result of excessive absolute brightness, but of excessive brightness contrast. The brightness of the sky seen through the window will be the same in all cases—corresponding to 180 f.c. in our example—and the brightness at the window will also be the same, about 150 f.c., resulting in a brightness contrast not exceeding 1:10 in a room with a one-third window; this is generally considered as admissible in good lighting practice. In a room with a one-seventh window, however, the contrast may be 1:30 and more, and the sky will be felt as glaring. This starts the vicious circle: curtains at the window against the glare, hence greater darkness, hence glare anew, hence more curtains, and so on, until rooms are more fit for moles than men.

Wrong distribution of brightness, not general lack of light, is also the trouble in the traditional stair well, with the glare of the window thrown right into the eyes of the people walking down (fig. 16).

Wherever possible, the best way to avoid glare is equalization of brightness on all surfaces of the visual perisphere. As light attracts the eye, the highest brightness should be in the focal point, and gradually fade outwards. Because the eye is more sensitive to light from below, it should decrease strongly toward the bottom, slightly toward top and sides.

In the ideal case the object itself is the source of light. This occurs in advertising signs, or when we look at a bright object merely for enjoyment, e.g., at a sunset or at decorative lighting. Where silhouette perception is sufficient, this ideal condition may also be realized in the work world, as in engraving on a translucent surface.

Normally however the object is darker than the source from which it receives its light, and therefore this source should be shielded from the eye. This is easily done in the case of local lighting, though it is still often forgotten. It is not possible in general lighting, where every point of the visual perisphere may become the object of vision. Therefore, directed local lighting is generally preferable.

Not only the primary source, but any surface brighter than the object occasions glare, especially if located at an angle of less than 30° from the line of vision (figs. 17, 18). This secondary glare is more difficult to control, especially with specular reflection. With an extended or a feeble source, reflection from specular surfaces is tolerable, but bright punctual sources and specular surfaces are mutually exclusive. This applies both to direct sunlight and to the light of incandescent or arc lamps. Many uses of brilliant metal surfaces, which were appropriate with the dim light of the oil lamp, must be excluded with modern sources of light. Notably in well-lighted workrooms, any brilliant color or polished surface should be avoided. By careful design, reflected glare may be kept out of the line of vision, provided all possible locations of both the object and the eye are known; in the work world this is rather the exception, especially with curved surfaces.

General illumination

Extended sources and bright mat surfaces, acting as secondary sources, are the best means of avoiding glare.

Fluorescent walls, ceiling, and floor are the only available source which by itself would achieve equal brightness of the entire room, but are at present hardly a practicable solution. Daylight in an all-glass house approaches this condition with an overcast sky, but calls for means to control direct sunlight. In large rooms evenly distributed fluorescent tubes may prove satisfactory. Normally, however, the light of the source must be diffused by transmission or reflection. We talk of "luminous architecture" in the first case, and of "indirect lighting" in the second, but the same laws apply whether a luminous ceiling or wall be produced by a source behind or before the luminescent surface.

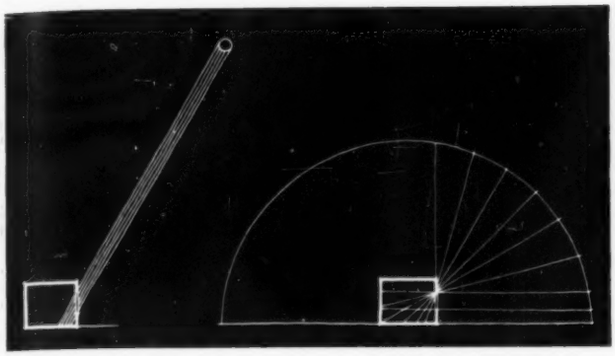
In both cases equal diffusion can only be achieved over a surface subtended by an angle from the source not exceeding 90°. As the available space behind the surface—in many cases piping space—is usually very limited, the difficulties in luminous architecture arise mainly from the necessity of extending and multiplying the source (fig. 19). With incandescent light this can only be done by using many bulbs of low wattage; besides using an excessive amount of current, these bulbs produce a very yellow light and a great amount of heat. Fluorescent tubes, being extended, of low brightness, and cool, are the answer.

In indirect lighting, on the other hand, the main problem is to avoid obstruction of the room by the source and to minimize the accumulation of dust on the reflectors which direct the light towards the ceiling or wall. The source, which includes a specular reflector, may be hidden, as in cove lights, or enclosed in a visible fixture, as with suspended or floor lamps. Both cases call for a small number of point sources of high brightness, such as incandescent or arc lamps. Only where the cove is very close to the reflecting surface are tubes preferable, but tubes of minimum thickness and high brightness.

Diffusion by transmission

The number of translucent media is practically unlimited: glass, slabs of marble or alabaster, and an ever increasing number of plastics; in addition, textiles, both old and new, and paper are also used. All of these means differ as to the relation of diffusing and specular transmission, and of absorbtion, which affects not only brightness, but also modifies color. In general, the less thorough absorbtion increases as diffusion becomes more complete.

In diffusing glass and in most plastics, diffusion—achieved by the molecular structure of the material—is practically



THE SUN, a point source

THE SKY, an extended source

Fig. 12: SOURCES OF DAYLIGHT

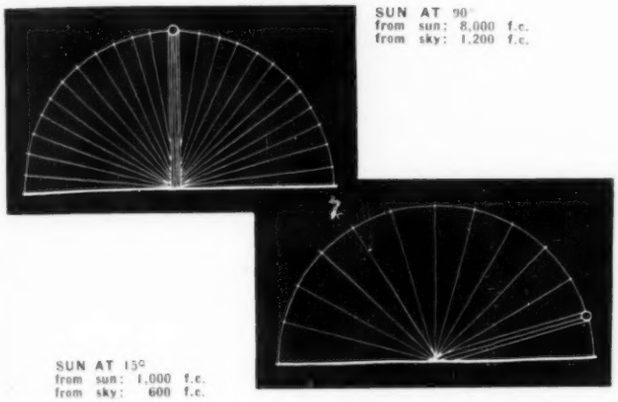


Fig. 13: INTENSITY OF SUNLIGHT AND DAYLIGHT

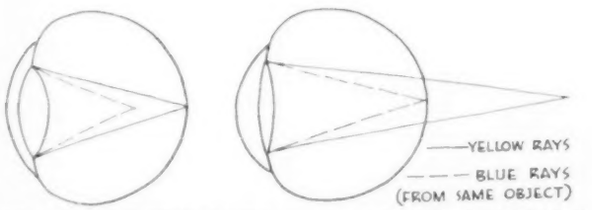


Fig. 14: WHY TWILIGHT CAUSES EYESTRAIN. The eye is constantly changing from adaptation for the yellow light of the electric bulb to the blue light of the sky and back again.

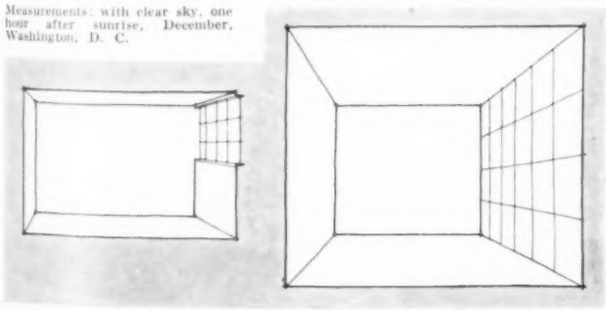


Fig. 15: IF DAYLIGHTING IS TO LIVE UP TO standards accepted for artificial illumination, window surfaces must increase.

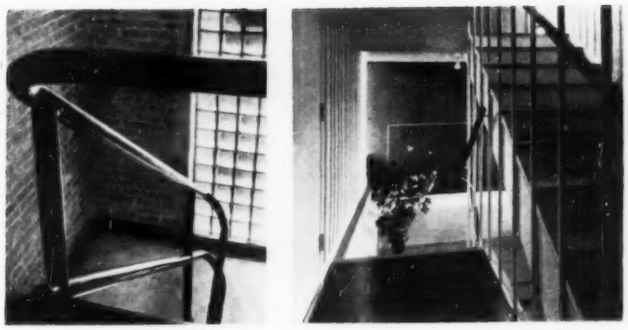


Fig. 16: IN THE TRADITIONAL STAIR WELL the glaring light of the window is thrown right into the eyes of a person walking down. A better solution is location of window on the side of the landing.

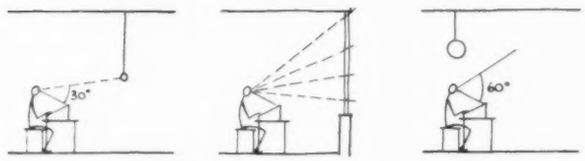

30°
60°
STRONG GLARE: point source in the field of vision
SOME GLARE: extended source in the field of vision
NO GLARE: source outside the field of vision

Fig. 17: PRIMARY GLARE

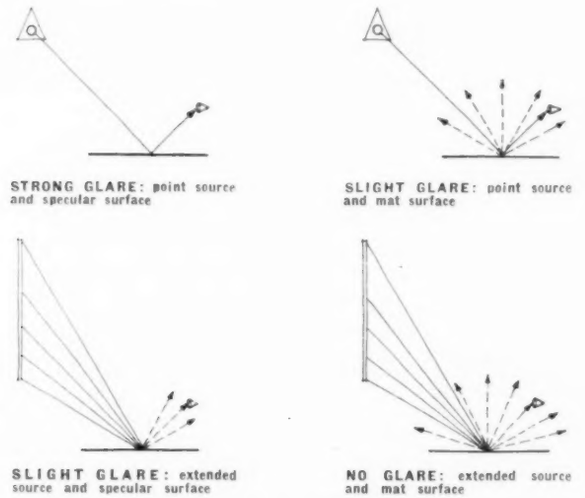

STRONG GLARE: point source and specular surface
SLIGHT GLARE: point source and mat surface
SLIGHT GLARE: extended source and specular surface
NO GLARE: extended source and mat surface

Fig. 18: SECONDARY GLARE. Any bright surface within the field of vision may occasion glare, notably at angles under 30° from the line of vision.

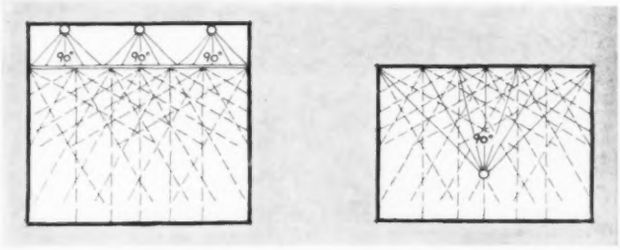
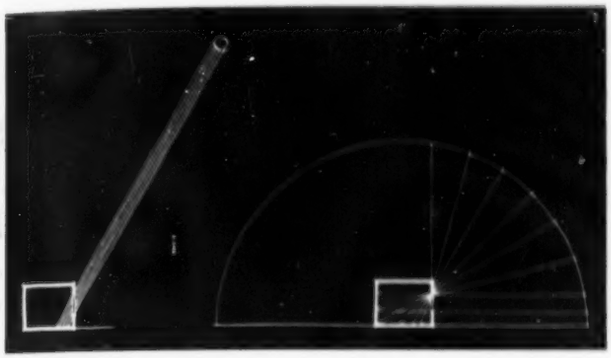

90°
90°
90°
90°
SOURCE ABOVE TRANSLUCENT GLASS: lack of space makes multiplication of sources necessary.
SOURCE BELOW REFLECTING CEILING: suspended source obstructs room, accumulates dust.

Fig. 19: THE SAME RESULT, a luminous ceiling of equal brightness, achieved by various means.



THE SUN, a point source — THE SKY, an extended source

Fig. 12: SOURCES OF DAYLIGHT

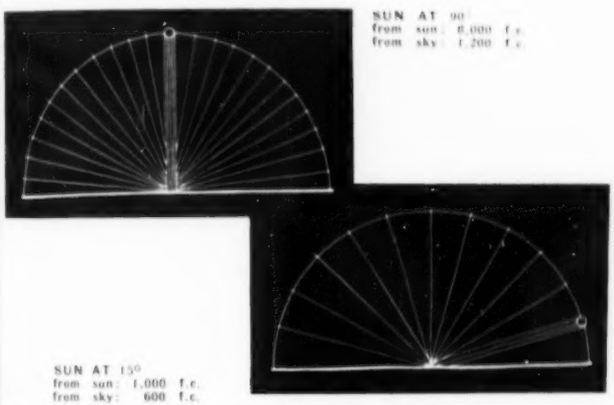


Fig. 13: INTENSITY OF SUNLIGHT AND DAYLIGHT

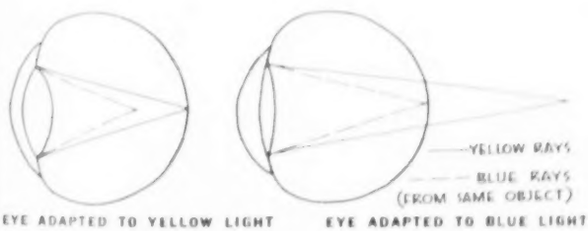


Fig. 14: WHY TWILIGHT CAUSES EYESTRAIN. The eye is constantly changing from adaptation for the yellow light of the electric bulb to the blue light of the sky and back again.

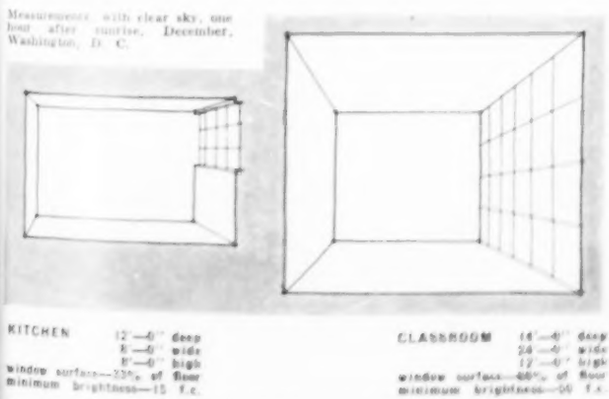


Fig. 15: IF DAYLIGHTING IS TO LIVE UP TO standards accepted for artificial illumination, window surfaces must increase.

Fig. 16: IN THE TRADITIONAL STAIR WELL the glaring light of the window is thrown right into the eyes of a person walking down. A better solution is location of window on the side of the landing.

STRONG GLARE: point source in the field of vision
DIMMER GLARE: extended source in the field of vision
NO GLARE: source outside the field of vision

Fig. 17: PRIMARY GLARE

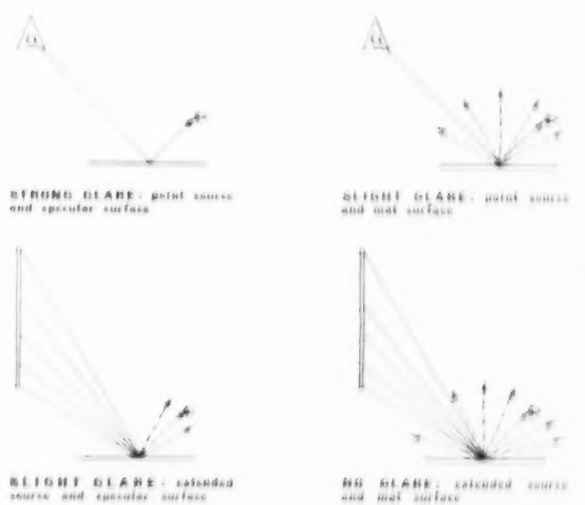

STRONG GLARE: point source and specular surface
SLIGHT GLARE: point source and mat surface
SLIGHT GLARE: extended source and specular surface
NO GLARE: extended source and mat surface

Fig. 18: SECONDARY GLARE. Any bright surface within the field of vision may occasion glare, notably at angles under 30° from the line of vision.

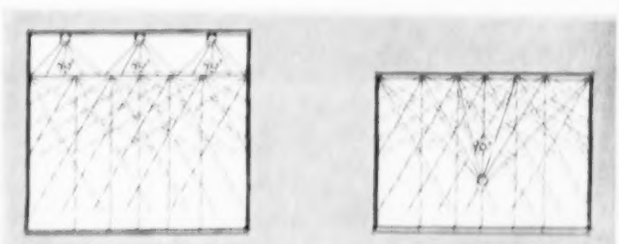

SOURCE ABOVE TRANSLUCENT GLASS: lack of space makes multiplication of sources necessary
SOURCE BELOW REFLECTING CEILING: suspended source obviates dust accumulation

Fig. 19: THE SAME RESULT, a luminous ceiling of equal brightness, achieved by various means.

Fig. 20: GLASS-CONCRETE CONSTRUCTION, using lenses with silvered lateral surfaces, transforms the wall into a translucent screen.

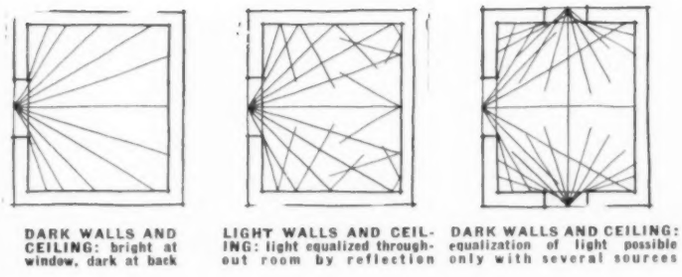
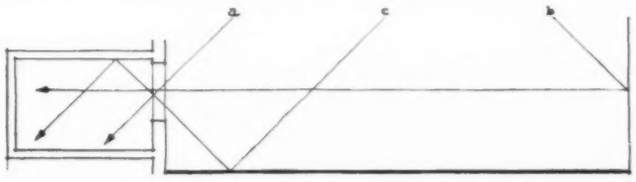

DARK WALLS AND CEILING: bright at window, dark at back
LIGHT WALLS AND CEILING: light equalized throughout room by reflection
DARK WALLS AND CEILING: equalization of light possible only with several sources

Fig. 21: DISTRIBUTION OF LIGHT.



a: LIGHT DIRECT FROM SKY lights part of room close to window.
b: LIGHT REFLECTED BY OPPOSING WALL lights depth of room.
c: LIGHT REFLECTED BY PAVEMENT diffuses throughout room by reflecting ceiling.

Fig. 22: REFLECTED LIGHT, unlike charity, ends at home, begins out-of-doors.

perfect; in flashed opal glass a diffusing veneer, thinner and less absorbent, covers a sheet of clear glass. The same principle applies in painted and enameled glasses. In laminated glass a layer, which may also serve to increase resistance to breakage or temperature, is enclosed between two panes of clear glass; this layer may be a paint, or a tissue of glass silk, etc. In the sandblasted, frosted, and similar glasses diffusion is achieved by breaking the surface into microscopic sections at different angles. As these sections grow in size, transmission becomes less diffusing, and more redirecting. This is the case with figured glass, where an infinite variety of sparkling designs is possible, dependent on the size and shape of the broken surfaces. However, all glasses achieving diffusion by uneven surfaces accumulate dust. This difficulty has been overcome in glass blocks, where the figured surfaces are protected, being on the inside of the sealed block.

The glass block is merely an enclosing material, which affords protection from sight, sound, and temperature; thick lenses and prisms may also serve as structural materials. We use them mainly in pavement lights; in Europe, notably in France, they have been widely used in glass-concrete constructions of walls, ceilings, vaults, and domes. Most lenses are diffusing; besides, the reflection from their lateral surfaces, especially when these are silvered, transforms the wall as a whole into an evenly translucent surface (fig. 20).

In current practice panes of clear glass provide protection and transparency, and a curtain or shade provides diffusion. By this division of functions we have gained flexibility, allowing for a view; but we have to pay the price of cleaning four surfaces instead of two. This inconvenience has to be weighed against the advantage of the view, in order to determine the relation of transparent and translucent walls.

Diffusion by reflection

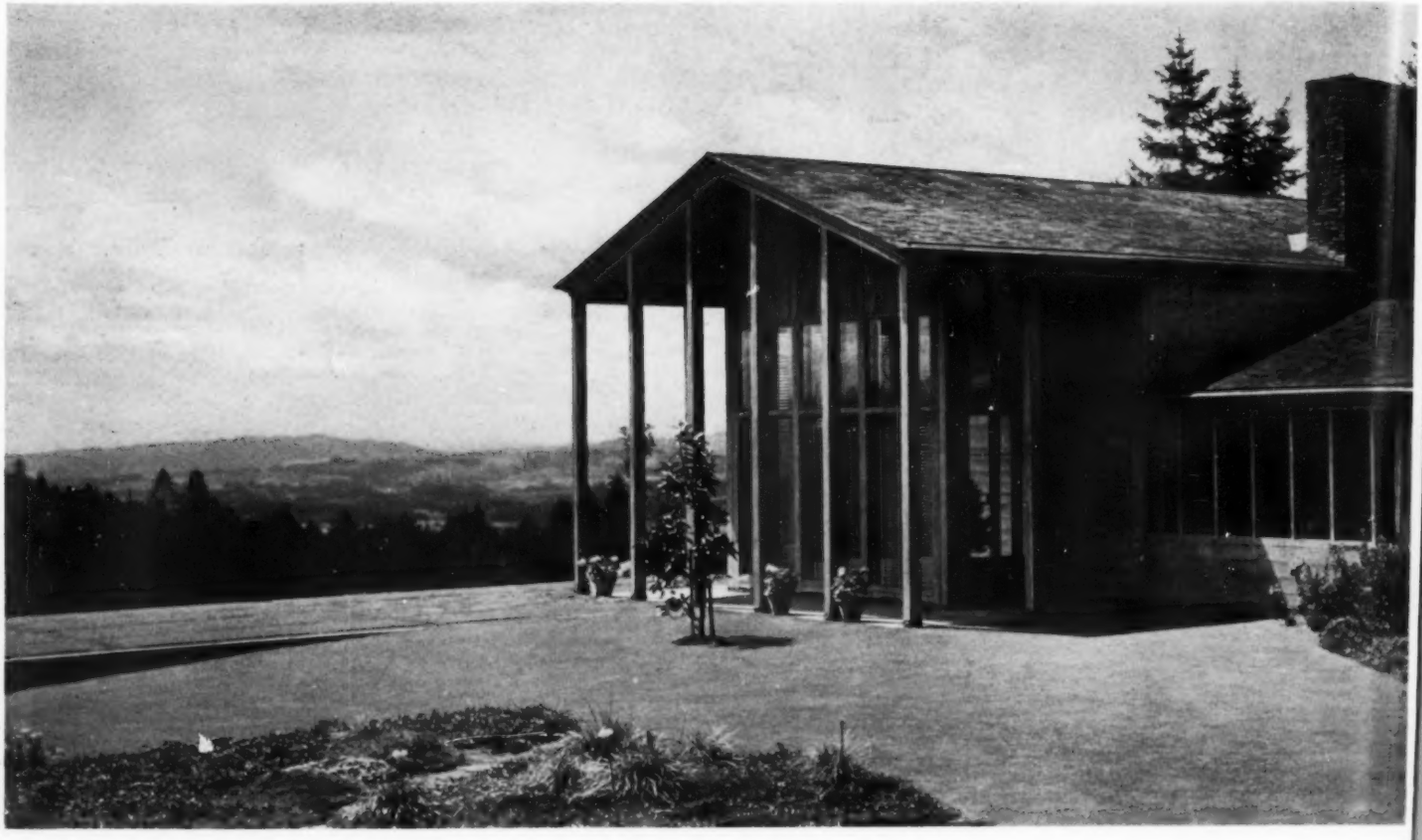
Even with glass blocks, as with any other translucent medium, there are still two surfaces to be cleaned. With a reflecting medium there is only one. Therefore reflecting media are much more widely used, both in natural and in artificial illumination. Alongside the source, they are the most important factor in lighting, which receives too little attention. In Holland manufacturers print the reflection factor of their products on the back of wallpapers, and on the front of cans containing paint. The American architect or interior decorator must find out for himself.

Any mat white surface, whatever the material, will have a reflection factor of about 80%. In a room with windows in one wall, white walls and ceiling will contribute almost half of the illumination. With dark surfaces even an approximate equalization of brightness can only be achieved by multiplying the sources; such rooms call for windows in two or more walls, and for a distribution of lighting fixtures throughout the room (fig. 23). Any change in the color of the source may affect not only the color, but also the brightness of colored reflecting surfaces. White surfaces help to equalize illumination not only in space, but also in time, contributing evenly to day- and night-light.

Unlike charity, reflected light ends at home, but begins out of doors. Every object is a source of light, and is often brighter than the sky. Sunlit snow may be 40 times as bright as a deep blue sky, and even in the shade a white wall is brighter than a clear sky. Light from sources opposite a window is thrown into the depth of the room, and light from below will be reflected and diffused by the ceiling. Therefore walls facing a window, and pavements of courts, terraces, and balconies are more valuable sources of light than the upper part of the sky, which lights mainly the part of the room next to the window. These surfaces should be kept bright, but not to an extent that may produce glare. Walls facing north may be white, but walls and especially pavements exposed to the sun should be of a yellow or buff color; this will also help to correct the cold color received from a clear blue sky (fig. 22).

HOUSES

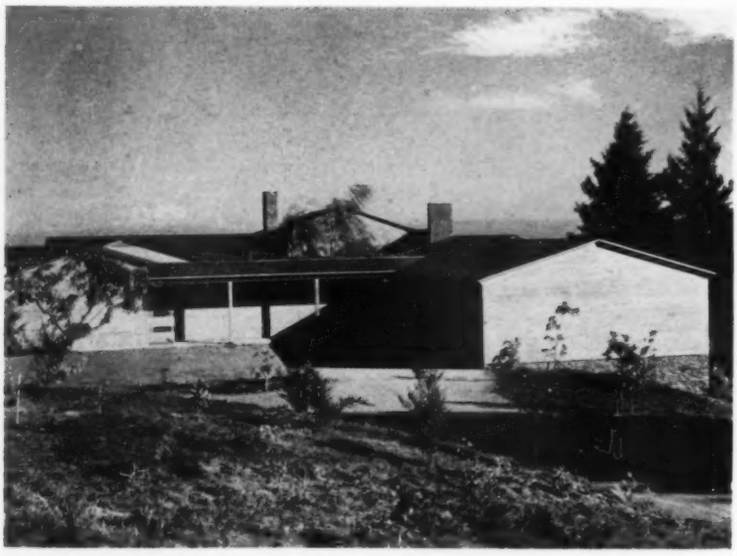
This month's house section leads off with a residence near Portland, Oregon, of which this is the forecourt and garden.



Photos by Boychuk and Photo-Art

A COUNTRY HOUSE IN THE OREGON HILLS

This residence near Portland, Oreg., for Mr. A. R. Warzek is the work of A. E. DOYLE & ASSOCIATE, Architects, and JOHN YEON, Collaborator. Its structure is entirely of wood, on a stone foundation. It represents "an emotional effort to solve the elements peculiar to the problem, in terms of regional architecture". Gardens and interior furnishings were designed by Mr. Yeon.



THE HOUSE SEEN FROM ABOVE THE MOTOR COURT; door to loggia at left

ORIENTED AND DESIGNED TO TAKE FULL ADVANTAGE of the view toward the Cascade Mountains and the intervening valleys, the house at the same time creates a feeling of shelter through the enclosed garden court. The main façade (above) faces the view, and principal rooms all have the same outlook. The garden court can be entered from a number of points, but the most frequently used is that which leads from the motor court direct to the loggia beside the pool. At the side of the house is a terrace (opposite page, top left) with stone steps which lead to the open porch and thence to the garden court. Exterior walls are of flush fir siding over conventional stud structure except for the garage, where fir boards are held together with steel pins; exterior has a silvery gray finish. The house has steam-actuated split-system heating. Individually controlled convector cores, incorporated in duct work as boosters, raise temperature for the heating-up cycle. Convectors may be used for heating without fan through separate convector returns.

THREE VIEWS OF THE GARDEN COURT: top, from the covered porch; center, looking across to the porch; bottom, looking along the loggia. Planting is varied, and includes trees, potted plants, and a bed for flowers.

Photos by Boychuk

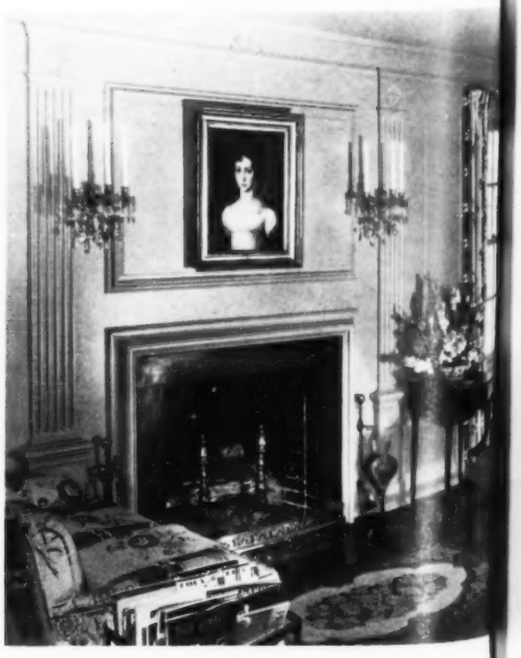
HOUSE IN OREGON

THROUGHOUT THE HOUSE the natural color of the different wood finishes was preserved. In the living room (p. 60, and below) walls and ceiling are paneled in vertical-grain noble fir. On either side of the fireplace are sliding door panels which conceal storage closets. The dining room (right) likewise has paneled walls; the ceiling is of plaster painted coral. The projecting bay, glazed from ceiling to floor, overlooks a group of evergreen trees.

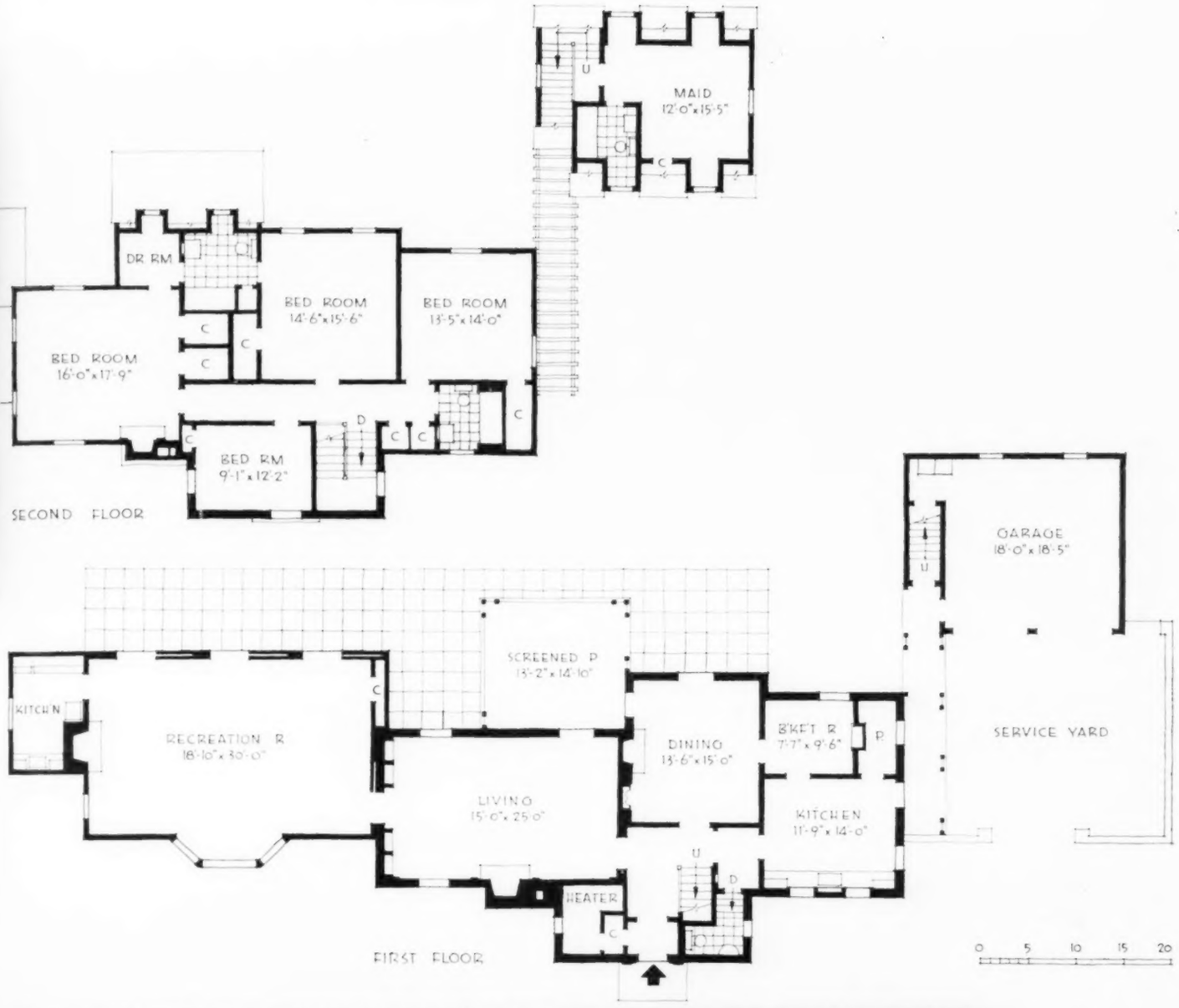
Photos by George Hampton Matchett

BRICK, SHINGLES VARY TEXTURE OF TEXAS HOUSE

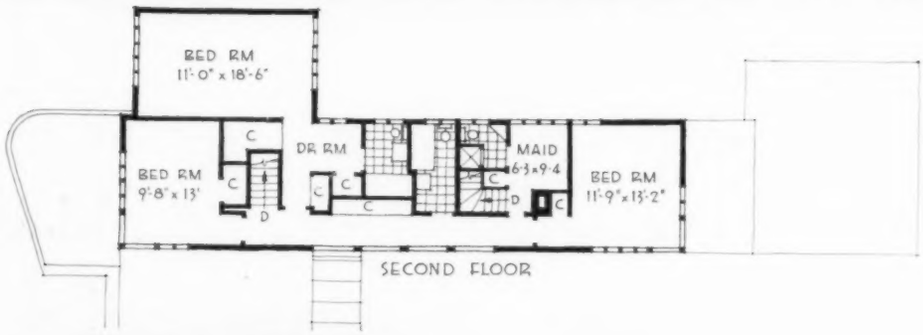
This house for Dr. and Mrs. C. M. Griswold in River Oaks, Houston, was designed by the architectural firm of STAYTON NUNN - MILTON McGINTY. Krause & Stone were in charge of interior decoration.

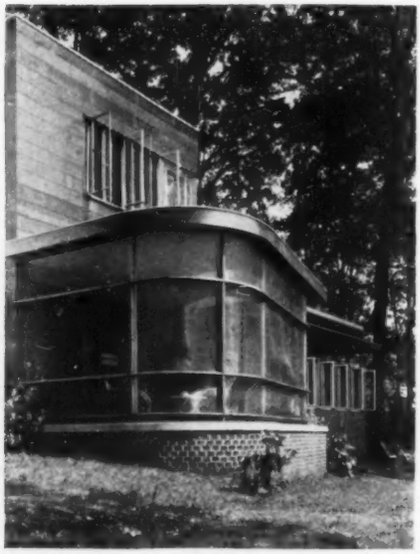


As ORIGINALLY DESIGNED and built the house did not include the recreation room, with its separate kitchen for impromptu eating. Three French doors in this room give easy access to a flagstone-paved terrace which overlooks the lawn. Noteworthy is the disposition of elements on the first floor, and the careful use of hall space. The cross ventilation obtained in living room and recreation room is a necessity in the climate of this locality. A covered walk connects kitchen with the garage and maid's room above. Service yard is convenient to kitchen.


MAID
12'-0"x15'-5"
U
C
DR RM
BED ROOM
14'-6"x15'-6"
BED ROOM
13'-5"x14'-0"
BED ROOM
16'-0"x17'-9"
C
C
C
C
C
C
D
BED RM
9'-1"x12'-2"
SECOND FLOOR
GARAGE
18'-0"x18'-5"
U
SCREENED P
13'-2"x14'-10"
KITCHEN
RECREATION R
18'-10"x30'-0"
C
DINING
13'-6"x15'-0"
BKFT R
7'-7"x9'-6"
P
SERVICE YARD
LIVING
15'-0"x25'-0"
KITCHEN
11'-9"x14'-0"
U
D
HEATER
C
FIRST FLOOR
0
5
10
15
20

Photos by Sienknecht





THE SCREENED PORCH faces due south.

MAIN ENTRANCE is at end of a porch with a frosted-glass roof.

PLANNED FOR PRIVACY OF INDIVIDUAL ROOMS

ALFRED CLAUSS and JANE WEST CLAUSS designed this residence in Knoxville, Tenn., for Mr. and Mrs. J. T. Mengel. Requirement that the various rooms be planned for individual privacy accounts for location of living room in one wing; of play room at end of house; of service stair within over-all area of maid's room.

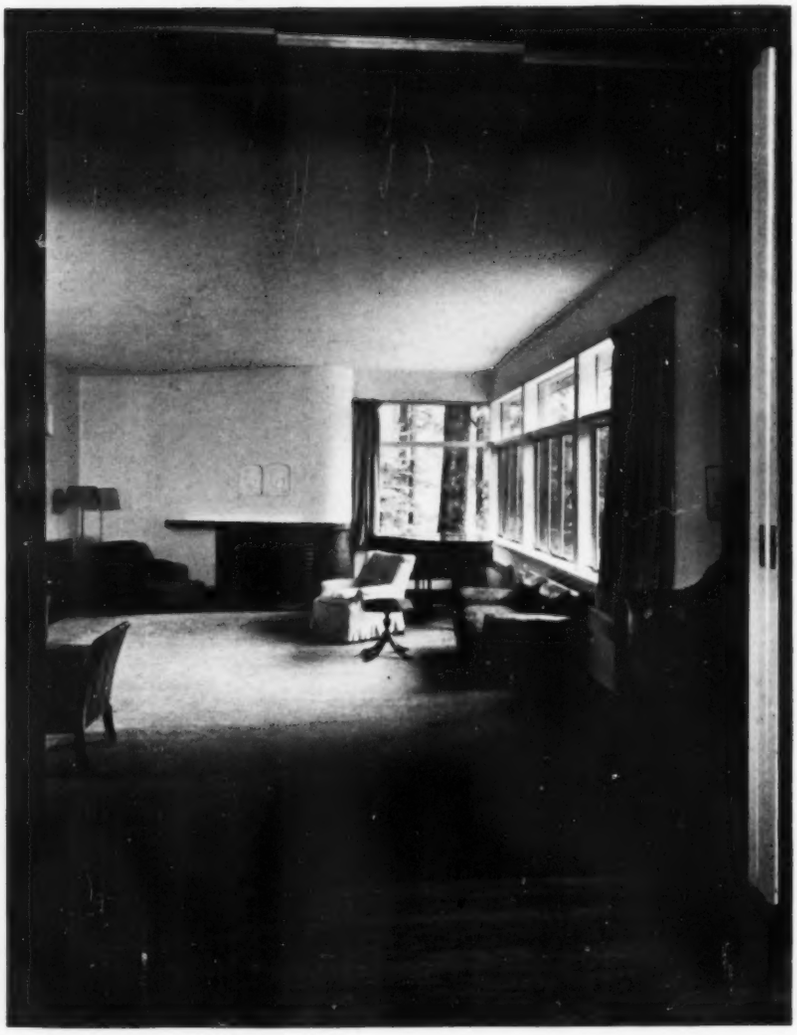
THE ELONGATED T-SHAPED PLAN was well suited to the level area on hilltop selected, for economy, as the site of the house. The site is far enough from the street to offer privacy, and has a high enough elevation to catch all prevailing winds and to permit unobstructed views. The location of the living room in a wing permits exposure on three sides (desirable in summer) and also gives privacy to the room, which can be closed off entirely by means of sliding doors. Living areas are concentrated at this end of the house. The children's play room (occasionally used as a guest room) had to be located away from the center of the house with east and west exposures and an independent entrance from the outside play area. The use of three materials for exterior surfacing obtains an unusual and interesting effect: white asbestos clapboards on first floor and west wing; shiplapped redwood siding, natural finished, on second floor; and handmade rough-textured maroon brick on the south side of living room, and on the chimney. The hall and foyer get natural lighting through large glass-block panels. The foundation is a continuous reinforced concrete slab set on a cinder fill.

HOUSE IN TENNESSEE

ALFRED CLAUSS and JANE WEST CLAUSS, Designers

Photos by Sienknecht

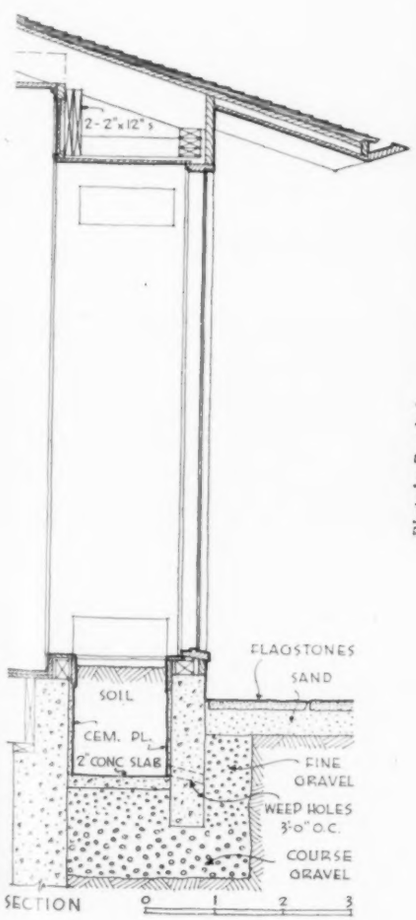
VIEW ALONG HALL toward foyer (glass panel at right is part of living-room wall); stairwall is paneled in primavera veneer.



LIVING ROOM looking toward hall and stairway (above, right) and seen from the hall looking toward front of house (below). Living-room walls are of plaster with trim of mahogany.

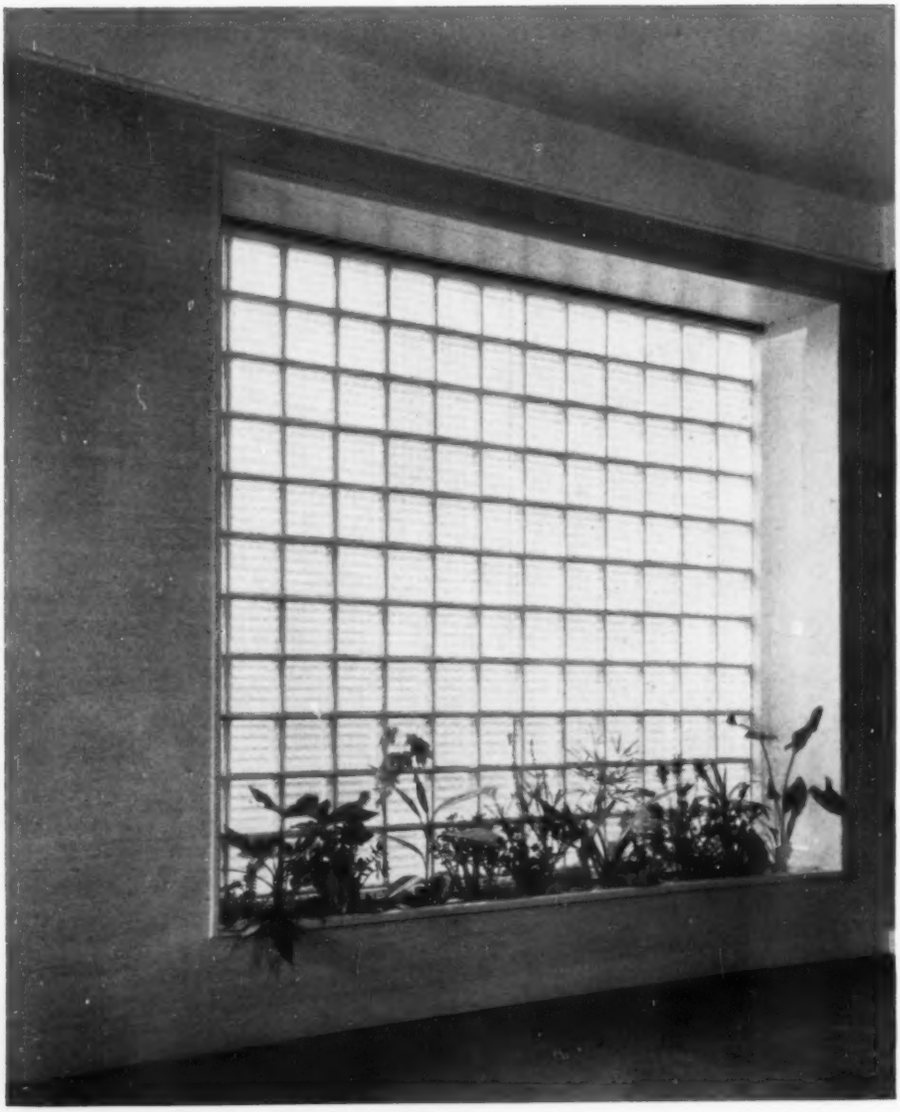
RESIDENTIAL DETAILS: FLORICULTURAL

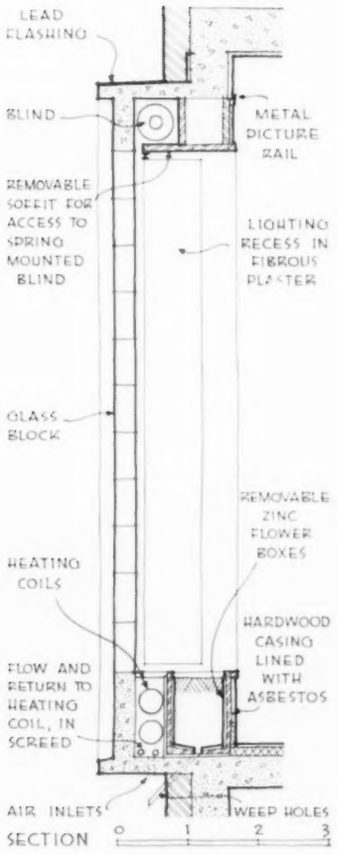
Photo by Boychuk



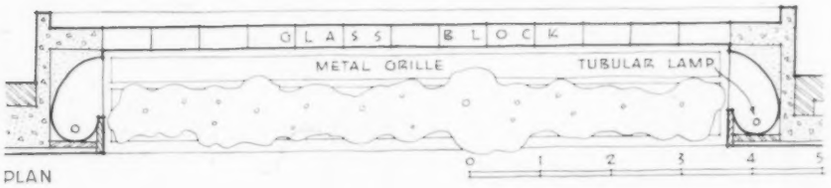
1. A. E. DOYLE and ASSOCIATE, Architects
JOHN YEON, Collaborator

INCREASINGLY APPARENT in residential design is the use of growing plants as part of the interior decorative scheme, and the provision, integral with the structure of the house, of plant beds. These floricultural provisions range from large conservatories devoted exclusively to plants, to small beds designed as incidental details to a room. In the example above, the indoor planting, located against a full-length fixed window, serves as a connection between the courtyard and the interior of the house.





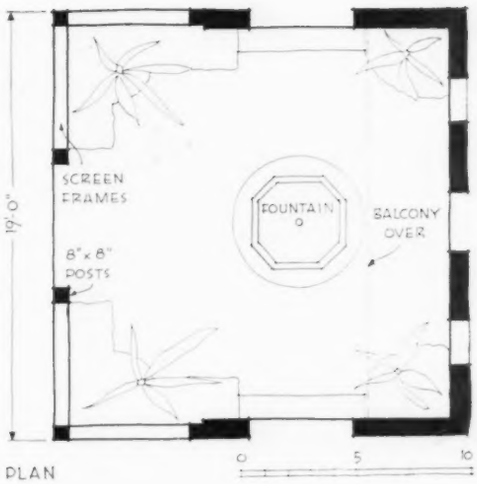
Courtesy "Architectural Review"



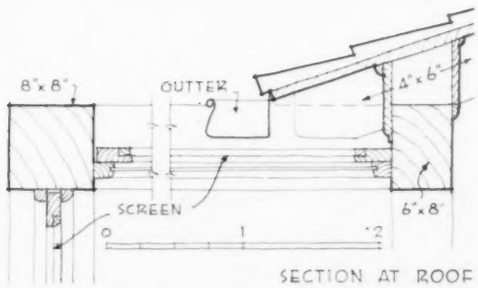
2. DENYS LASDUN, Architect

DESIGNED AS AN ESSENTIAL element of the decoration of the living-dining room, this flower-box window accomplishes its purpose by night as well as by day. Light sources, concealed in recessed reflectors at either end, illuminate the whole window area. The heating coil partially insulates the flower box and gives sufficient heat during winter for semitropical plants.

Photos by Ernest Graham



PLAN

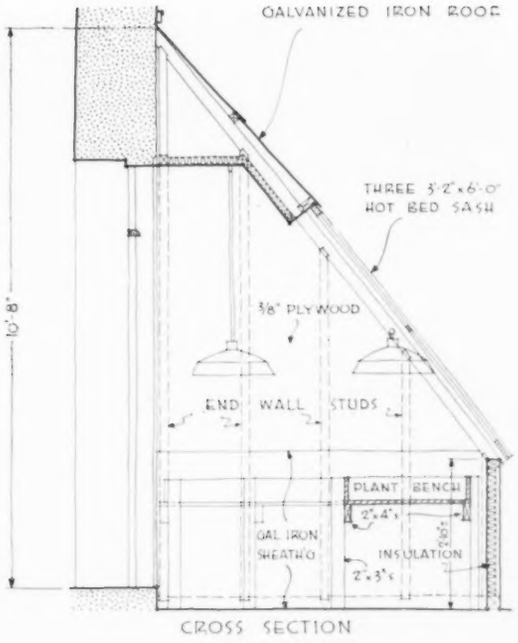


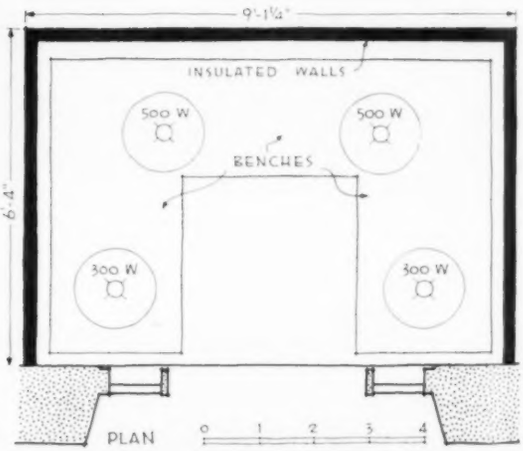
SECTION AT ROOF

3. JOHN and COULTON SKINNER, Architects

ACTUALLY A TWO-STORY screened-in area partially enclosed by the angle formed by dining and living rooms, this "patio" acts as an intermediate link between house and open terrace and garden beyond. Height of patio permits tall planting.

Photos by Ernest Graham

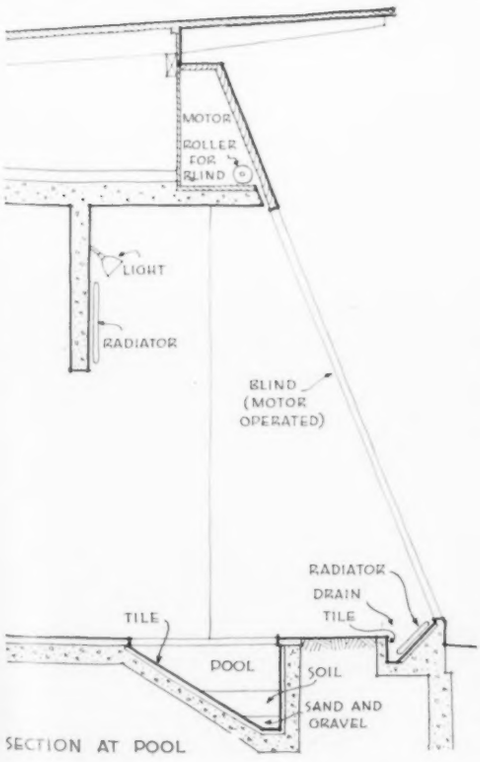




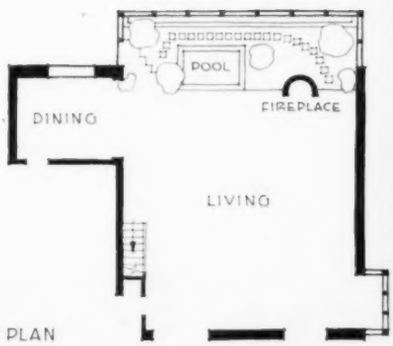
4. GEORGE A. ROBBINS, Architect

THIS DEMOUNTABLE GREENHOUSE is fastened on the south wall of a house. Hence plants get all necessary heat and sunlight through the cold-frame sash, and are protected on the north side by the walls of the residence. Light and heat are obtained from the sun and are supplemented at night by four ordinary light bulbs of 300-500 watts, equipped with reflectors and hung on pulleys for quick adjustment as plants grow. Thermostat controls on lights maintain 63° temperature.

Photos by G. E. Kidder-Smith



SECTION AT POOL



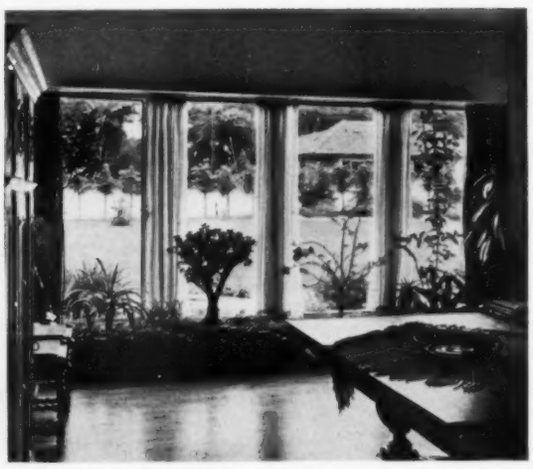
PLAN

5. BACKSTRÖM & REINIUS, Architects

THE FEATURE OF THIS LIVING ROOM is a large winter garden, which extends across one end of the room. The splayed glazed wall admits a maximum of sunlight. Along the top and bottom of this wall are radiators which provide proper temperature for the tropical and subtropical plants. High humidity is required for these plants; the house is air conditioned and air from the living room is exhausted by a blower at the top of the fireplace.

6. ARNE JACOBSEN, Architect

THESE THREE EXAMPLES of the use of flower boxes as integral parts of the structure are the work of a distinguished Danish architect. Potted cactus plants are set in a sand and gravel mixture in the examples shown above and below (left). Such plants require only a little moisture. The picture at right (below) shows plants set in boxes along the window.



Photos by Sigurd Fischer

BUILDINGS FOR BUSINESS

Lionel Moulin

SOME TIME HAS PASSED since the boom days of office-building construction—since we began to hear mutterings about the skyscraper's economic unsoundness. Yet the demand for new office space continues, though it is generally a demand for a new type of space. Isolated skyscrapers are built; but the building designed for a specific tenant is the type which seems to characterize the past few years.

Several factors distinguish current design practice from that of other days. Probably most important is the reduction of speculative risk to a minimum. "Specific tenancy" is one means to such an end. Others include: studies of land usage; of potential neighborhood changes; plan organization for economy of services and construction; inclusion of technical advances which increase occupants' comfort and efficiency; and strict attention to costs, both by using newer, less expensive building techniques, and by comparison of potential income with first costs and maintenance charges.

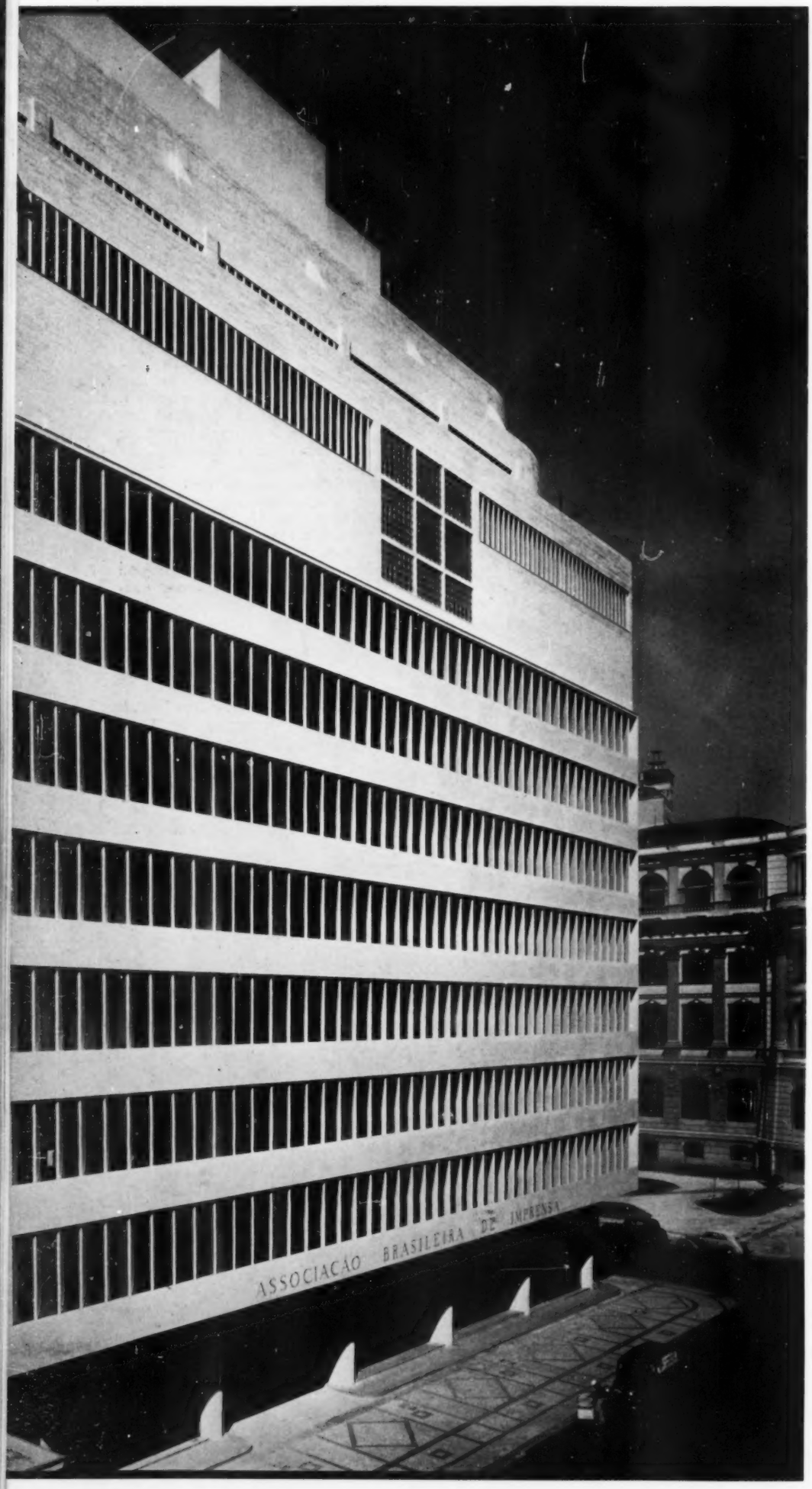
There are, of course, other factors which distinguish today's designs; many of them are touched upon in this presentation of

NEW AND REMODELED OFFICE BUILDINGS

BUILDING TYPES

A B I

ELEVATOR LOBBY opens on street . . . .

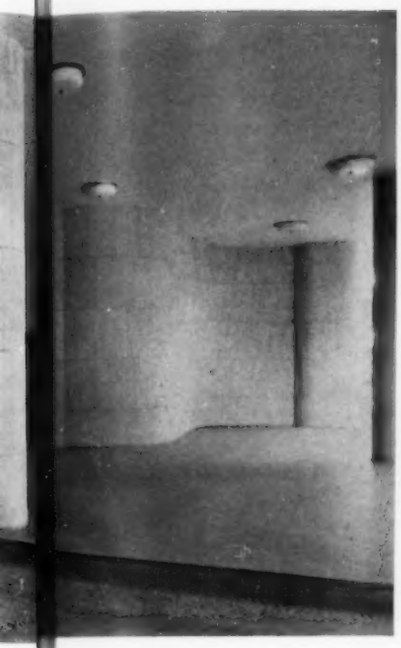


In designing the new home of the BRAZILIAN PRESS ASSOCIATION (Associacao Brasileira de Imprensa) in Rio de Janeiro, MARCELO and MILTON ROBERTO, Architects, faced problems which are not often encountered in the U. S. A. However, their straightforward solution, their logical plans, and their use of advanced techniques make their ABI Building unusually interesting to North American readers.

Chief among their difficulties was the tropic sun. To combat solar heat and intense light they enveloped the building proper with rows of louvers which serve as sunbaffles, which are separated from window-walls by spaces called, in their aggregate, the "heat dispersion zone". Also, the building is completely air conditioned.

The climate had some beneficial effects on the design problem: no heating system was necessary, and the street floor lobby could be left open to the sidewalk.

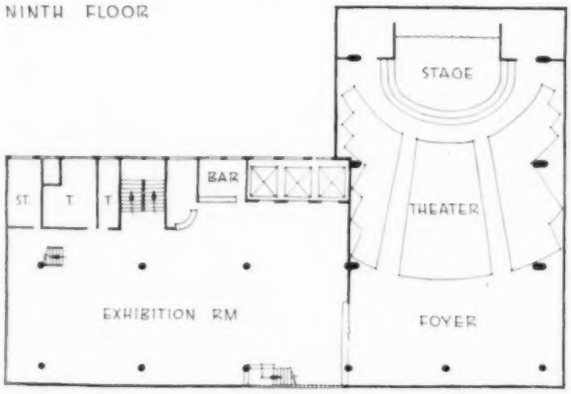
FROM NEW TECHNIQUES SPRING NEW FORMS

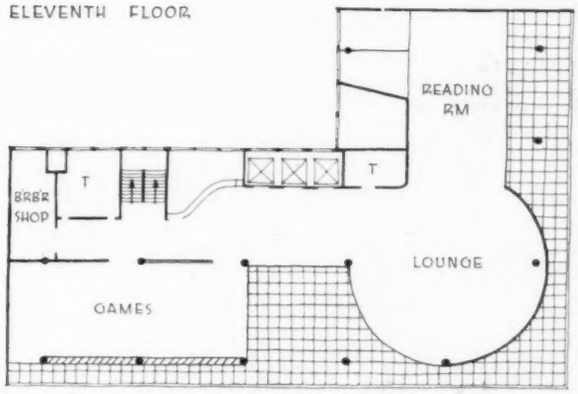


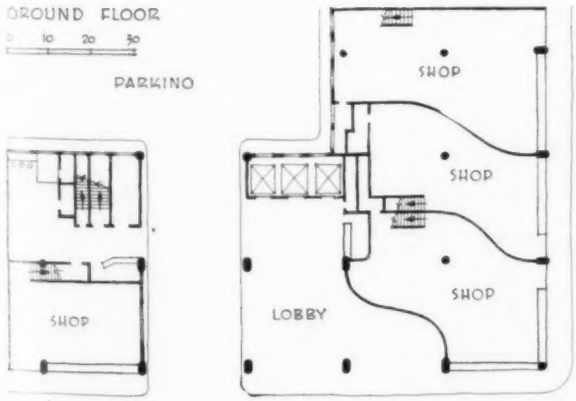
. . . Driveway leads to parking space.

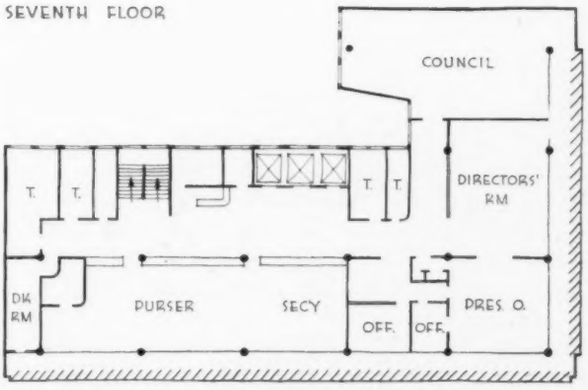
EXHIBITION HALL on ninth floor

Photos © Overseas Press



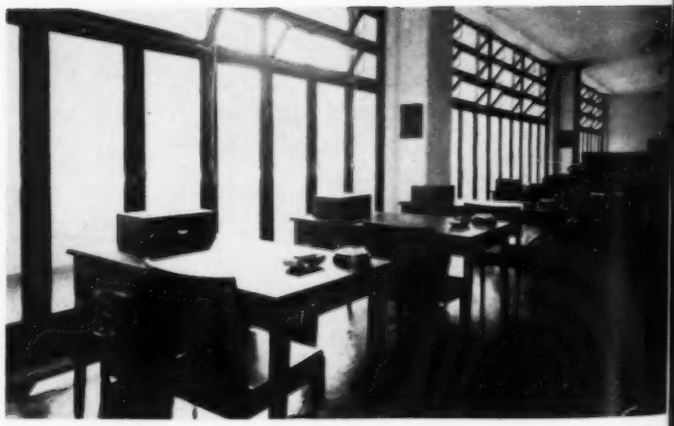






Photos © Overseas Press

IN THE PRESIDENT'S OFFICE, above, walls are sheathed with, and furniture constructed of, sucupira wood from Para. Chairs are upholstered in chrome-tanned leather from Rio Grande do Sul. Board of Directors' room is visible through sliding doors. At right, typical office space, with special desks which contain built-in file cases. Below, the Association's Council Room. All three of these photos were taken on seventh floor.



THE ARCHITECTS HAD TO PROVIDE several widely differing types of space, ranging from typical business offices to club rooms and a theater. The design problem, complicated by the tropical climate, was solved with the aid of several newly developed structural techniques. Most apparent of these is the system of sun-baffles which give the building its exterior form and ornament. These are detailed on page 81.

Construction is of reinforced concrete, faced with Tijuca granite and travertine. The sun-baffles are faced with white cement and Alba sand. Concrete exterior walls have an inner lining of hollow brick; between the concrete and brick, a 5-centimeter air space was left for thermal insulation. Interior wall finish is mostly in sucupira wood, with some Ipê tobacco wood, Peroba de Campos, and Rosewood. In the ground-floor lobby, open to the sidewalk, column facings, walls, and floor are of Tijuca and Bangu stone. Weather-resisting steel sheets line the elevator wall.

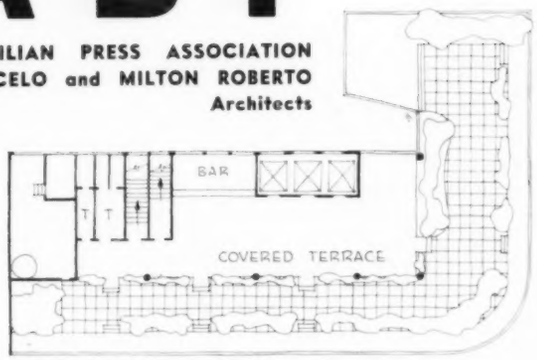
A B I

BRAZILIAN PRESS ASSOCIATION
MARCELO and MILTON ROBERTO
Architects

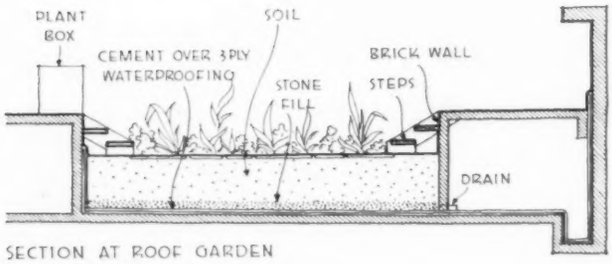
450-SEAT CONCERT AND LECTURE HALL on ninth floor, at left, has excellent acoustic properties. Below, eleventh-floor lounge

ABI

BRAZILIAN PRESS ASSOCIATION
MARCELO and MILTON ROBERTO
Architects



ROOF GARDEN

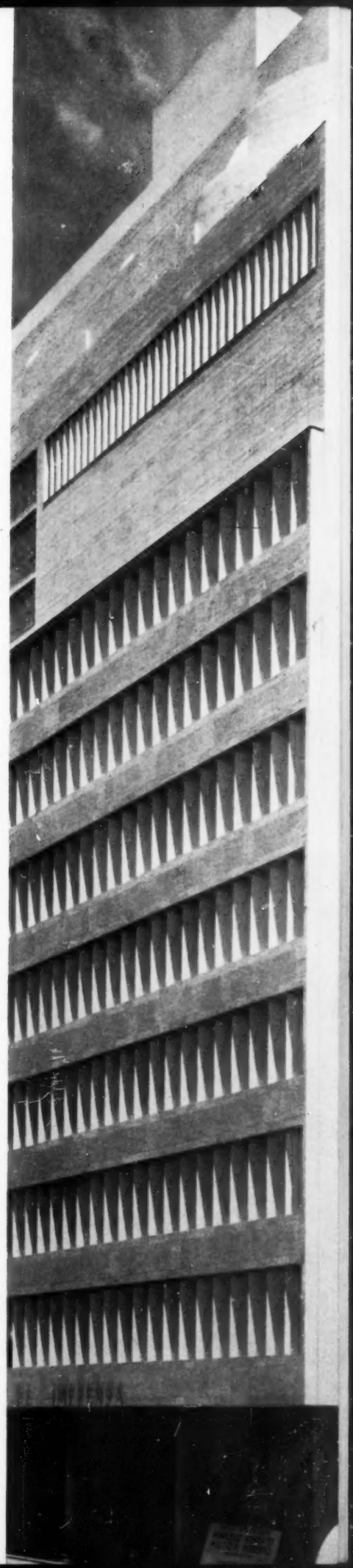


SECTION AT ROOF GARDEN

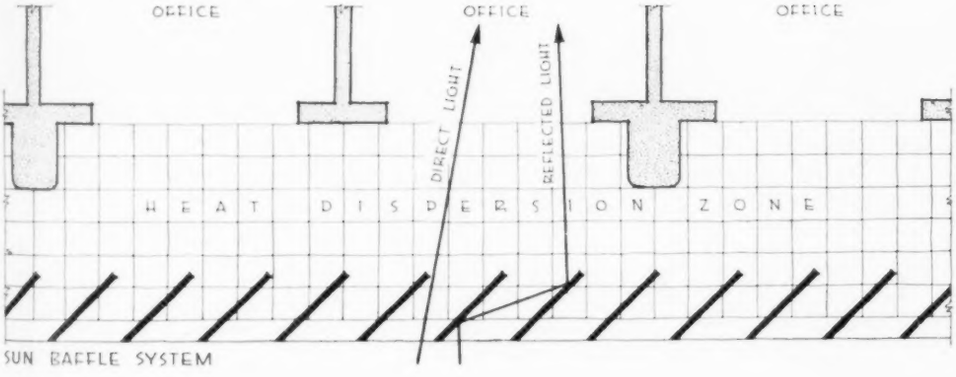
THE RESTAURANT AND ROOF GARDEN (section at left) where specimens of Brazilian plant life are displayed. There is an excellent view over the city and Guanabara Bay.

Photos © Overseas Press

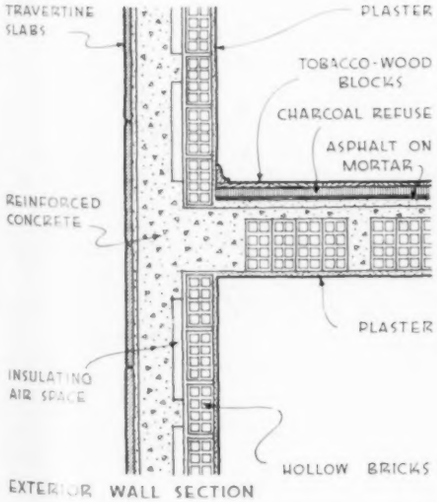
INTERIOR OF LOUNGE, left, shows effects of sun-baffles which characterize exterior elevation shown at right.



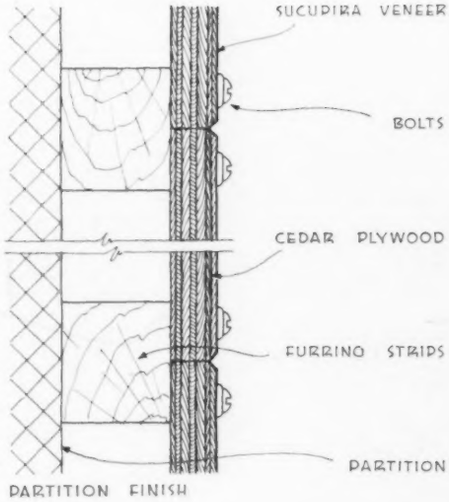
DETAILS OF CONSTRUCTION



SUN BAFFLE SYSTEM



EXTERIOR WALL SECTION



PARTITION FINISH

PROFIT FROM RENTABLE OFFICE SPACE

Architects WYETH and KING designed for the First National Bank, in Greenwich, Conn., a simple Colonial combined bank and office building which pays profits.

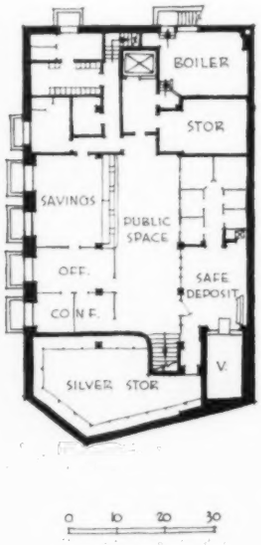
THE PROBLEM IN DESIGNING this bank-and-office building consisted in providing two banking floors and three floors of rentable office space at minimum cost, on an irregular, sloping, corner site. There was little other modern office space for rent in Greenwich. The clients desired fire-resisting construction and a Colonial exterior. The extreme simplicity which was essential to meet the budget resulted in elimination of decoration and of expensive materials.

Exterior masonry bearing walls and steel interior columns and girders frame the building. The banking floor is of the steel-pan type; upper floors have open-web steel joists and concrete slabs. Lighting in the bank is from a combination of directional flush lights and fluorescent fixtures. Heat is supplied by a "split" system which utilizes two-pipe vapor to office radiators. and indirect warm air to banking rooms, with provision for future cooling.

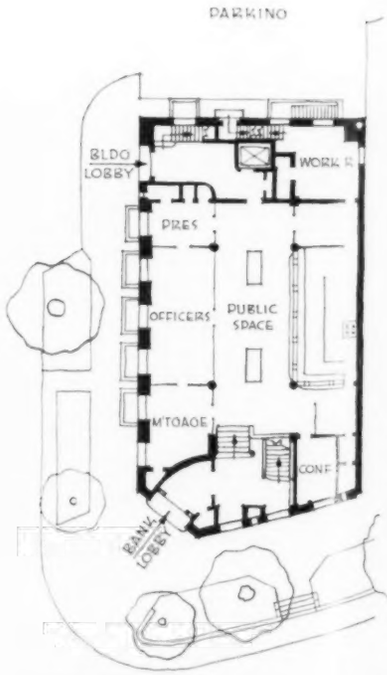
Cost of land, including landscaping, was $43,000.00. Cost of building, excluding design fees and furnishings. was $122,700.00. The cubage, 245,000 cu. ft., yields a cu. ft. cost of approximately 50¢, which is so low that rents from two office floors pay maintenance and financing charges. Rents from the third floor are clear profit for the bank.

LOOKING FROM UPPER BANKING FLOOR toward split-level bank entrance; stairs to lower floor at left

Photos by Gottscho

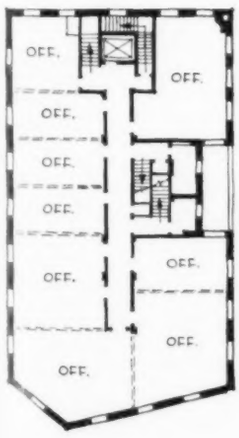


BASEMENT



GROUND FLOOR

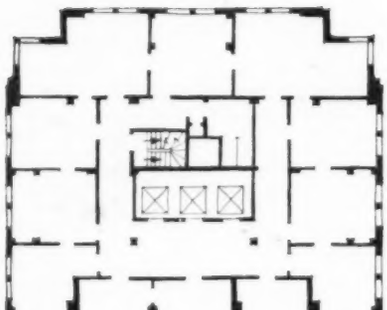
INTERIOR, MAIN BANKING ROOM, shows counters faced with Duali plywood, which is used for most of the cabinet-work because of its comparatively low cost. Below is a detail of the vault on the lower banking floor.



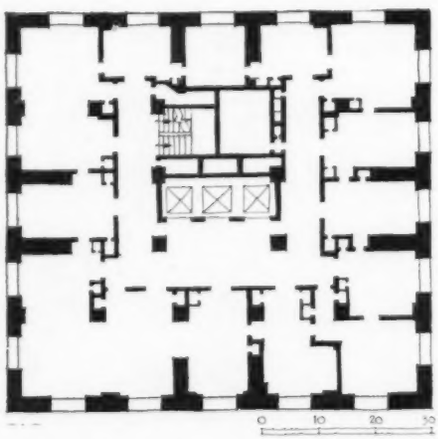
SECOND FLOOR

Photos by Gabriel Mulin

PROGRESS SHOTS show most spectacular part of the job of remodeling San Francisco's historic Claus Spreckels Building (later the Call Building) into the new Central Tower. Left, the original, which withstood the 1906 earthquake, as it was April 15. September 15: hoist-cage up, preparations for removing uneconomical upper stories in progress. November 15: dome half down, cornice masonry removed . . .



NEW FLOORS have light, strong construction.



OLD FLOORS (below 12th) are massively strong.

ECONOMIC FORCES PROVE STRONGER THAN EARTHQUAKES

After San Francisco's 1906 earthquake, when much of the city was leveled, the Call Building remained unharmed amidst wreckage. It was designed prior to 1896. Economic obsolescence and necessity of replacing much of the sandstone facing caused the building to be remodeled.

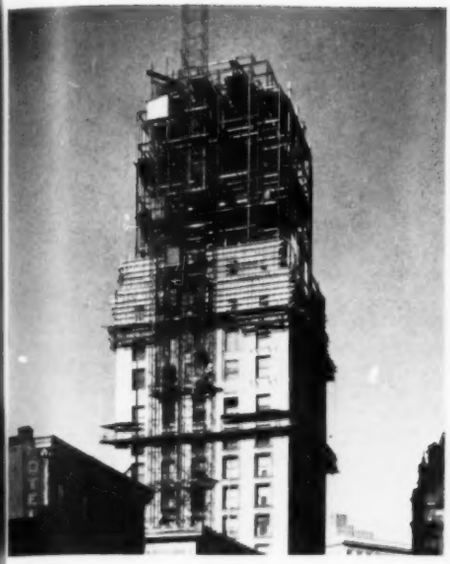
The original building was 69 by 74 ft. for 15 stories, topped by a dome which housed four more stories. Foundations were most substantial: base is 25 ft. below grade, and consists of a 2-ft.-thick concrete mat, 96 by 100 ft. square, on compact sand. On this platform rest 58 continuous, heavy steel beams. On top of these, and at right angles, are 63 similar beams. This grillage is filled solidly with concrete. The building has a heavy steel frame throughout, with substantial portal bracing carried up exterior walls to the fourth floor. Extra heavy gusset connections and diagonally braced interior columns contributed to the designed lateral strength of 50 lb. per sq. ft. In 1906, the U. S. Geological Survey called the structure: ". . . probably the best designed piece of such work in the U. S."

Loads were lightened to a considerable degree by removal of all masonry above the 14th floor, and all steel from the 15th floor up, excepting columns which supported elevator machines, etc. It was found that no unusual care had been taken to anchor masonry, beyond bolting the heavy cornice to substantial steelwork bracketed out from the framing.

Four particularly difficult problems arose. First, design data on the old building was almost non-existent. L. C. Strobel, original engineer, was dead. Fire had destroyed his records. Magazine articles, a lucky find in a University of California storeroom, and direct examination of the framing permitted reconstructing sufficient data.

Second, a balance had to be found between rentable area of six new floors and cost of construction. This entailed a series of studies, partly guided by engineering potentialities, which determined that six new rectangular floors, each slightly smaller in area than the old tower, would prove more satisfactory than either fewer and larger floors or more smaller ones.

Third, a method of demolition and of erecting new work had to be devised which would permit operation at all times of at least two of the three elevators. Likewise, tenants had to be



. . . On January 15, new steel work extended up from the old, and the building was partly refaced. On April 1, work was nearly complete, and in September, a year after the job started, modern Centra Tower was finished. ALBERT F. ROLLER, Architect, and H. J. BRUNNIER, Structural Engineer, with able consultants and contractor, accomplished the job without disrupting elevator service or dislodging tenants.

satisfactorily accommodated during remodeling.

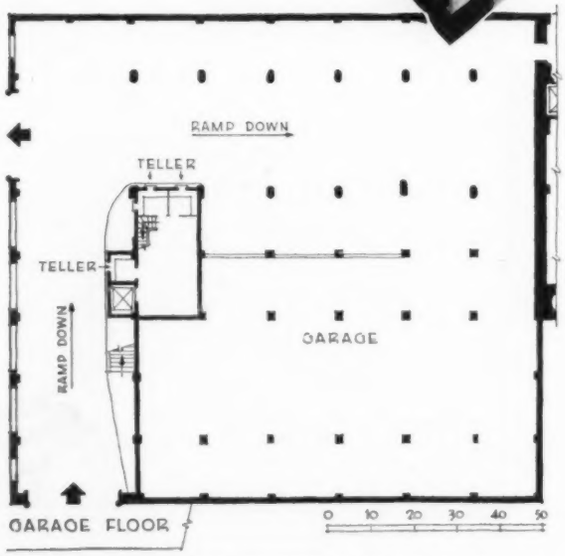
Fourth, light yet strong structure was essential, as were satisfactory means of uniting new work and old. Weight of new work was held to a minimum by using such materials as concrete with lightweight aggregate.

Besides the tower structure, new elevators were installed, main lobby and all toilets were modernized, and an existing annex, separated by 25 ft. from the tower, was integrated with the main portion of the building.

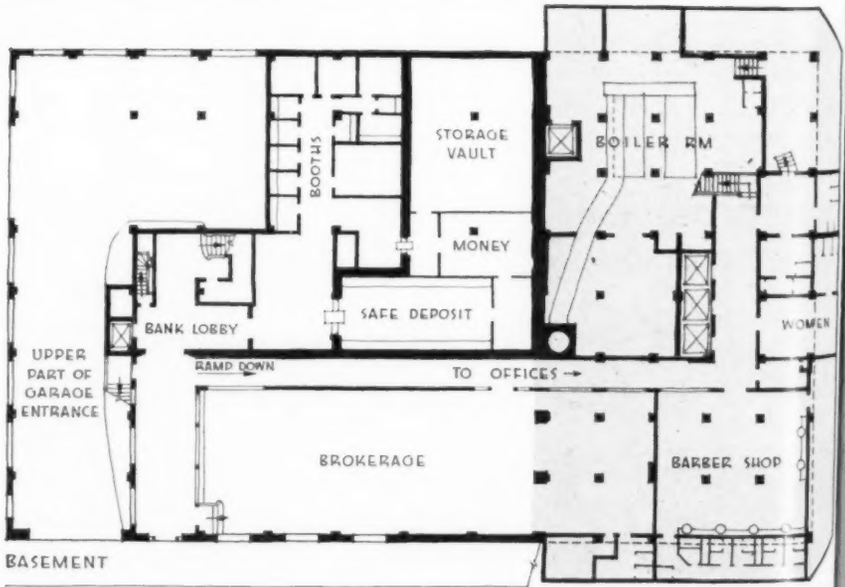
OLD LOBBY, above; modernized at right

NEW FOR OLD:

EXTENDED to cover a plot more than twice the original size, stripped of a heavy cornice, with new banking offices, parking garage, radio studios, and renovated and new offices, this building now boasts some of the most desirable office space in Nashville.



Drop in grade permits sub-basement to be used for garage.



Circulation between garage, bank, brokerage space, and offices was a complex proble

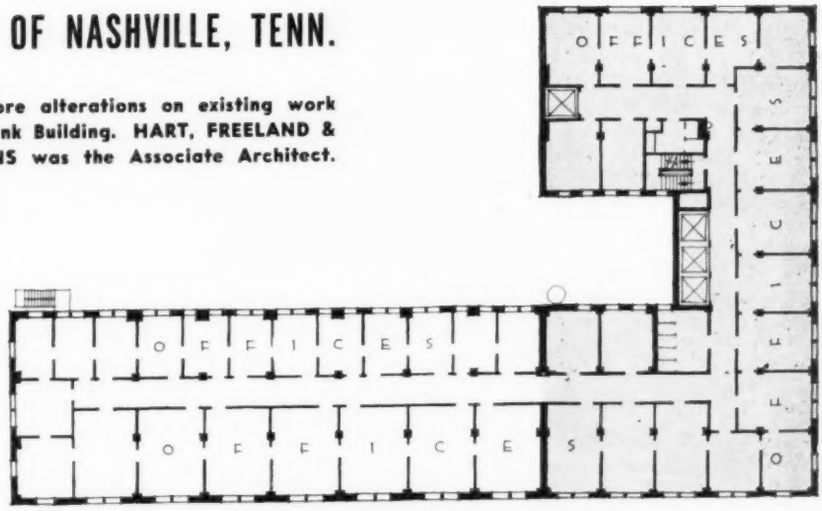
REMODELED INTO THE RADIO CITY OF NASHVILLE, TENN.

Extended banking quarters were added to old before alterations on existing work started, in modernizing Nashville's Third National Bank Building. HART, FREELAND & ROBERTS were the Architects; FREDERIC C. HIRONS was the Associate Architect.

IN ORDER TO CLEAR the main banking room of columns from the stories above, structural steel trusses were installed between the third and fourth floors to carry the two interior columns omitted in each bay below. Trusses are 14 ft. 6 in. on centers (width of offices on second floor), and span approximately 38 ft. 6 in. (width of lobby and office wing). Top chords of trusses are built into the fourth floor and bottom chords into the third floor; web members come in partitions between offices, and are arranged so that the corridor passes through trusses at their centers. Details are shown overleaf.

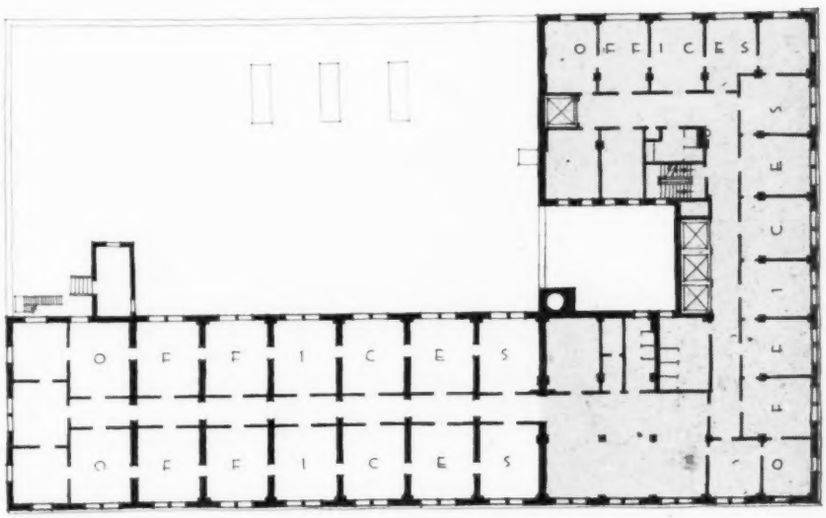
Banking quarters (first floor, first and second mezzanine, and basement) are completely air conditioned, both summer and winter; second, third, fourth, fifth, sixth, and twelfth office floors have summer air conditioning; seventh, eighth, ninth, tenth, and eleventh floors are heated for winter, not air conditioned.

Conditioning system for the banking quarters is of the direct-expansion type, with central conditioner. A conditioner, fan, and duct system on each conditioned office floor has chilled water for cooling pumped from compressors in the basement. The system is designed for 80° F. when outside temperature is 95° F.



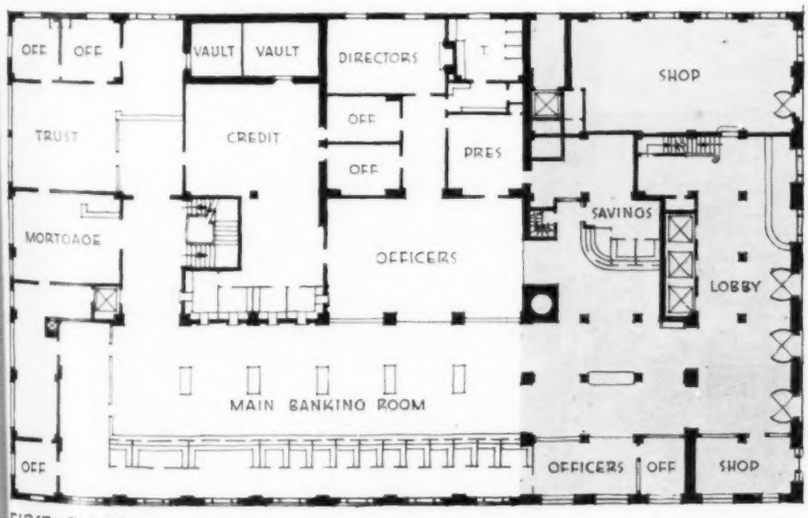
TYPICAL FLOOR

Shaded portion of plans indicates original building. On typical floors, office space was approximately doubled.



THIRD FLOOR

On air-conditioned floors, an equipment room is centrally located, adjacent to flue. Note, in new wing, thick partitions which conceal trusses.



FIRST FLOOR

On first floor and two mezzanines between it and third floor are principal banking rooms. Public lobby was modernized, new entrances and shops added.

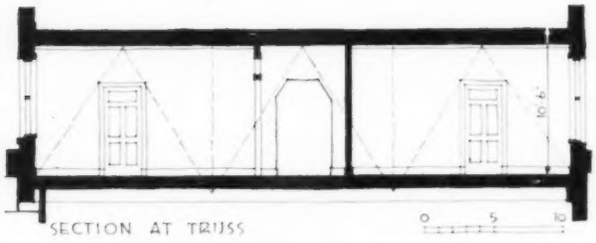
Photos by Wiles, and St. Thomas

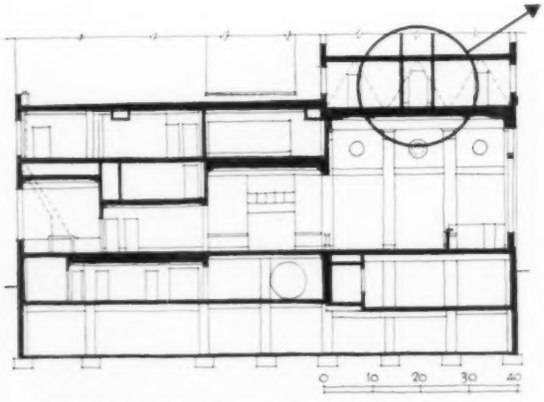
UNIQUE FEATURE is group of tellers' cages at garage floor level. Drive-in customers deposit and withdraw funds without alighting from their automobiles.

THIRD NATIONAL BANK

HART, FREELAND & ROBERTS, Architects
FREDERIC C. HIRONS, Associate Architect

OLD (below) and NEW main banking room



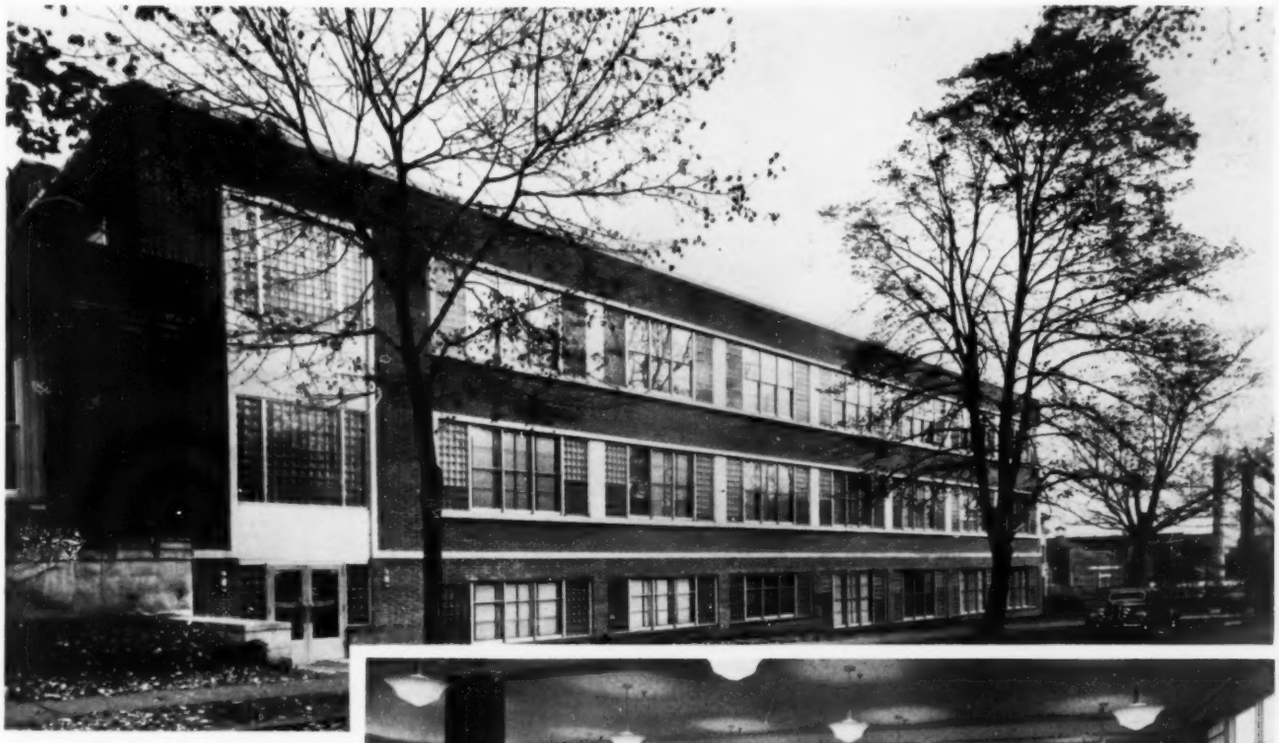


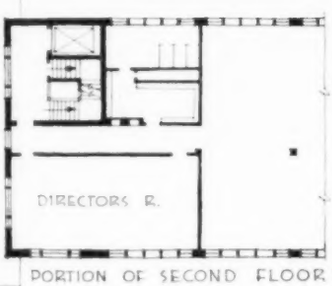
SECTIONS OF NEW WING, above, show how two mezzanine floors of banking space balance the impressively high main banking room; and indicate trusses which carry upper floors. A simple walnut-paneled interior replaces the lush marble of other days.

Photos by Wides and St. Thomas

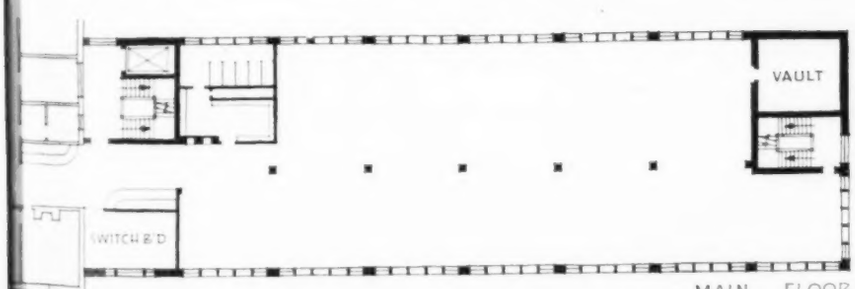
Detail of OFFICERS' SPACE

OFFICES FOR A MANUFACTURING PLANT—AN IMPORTANT FIELD OF PRACTICE

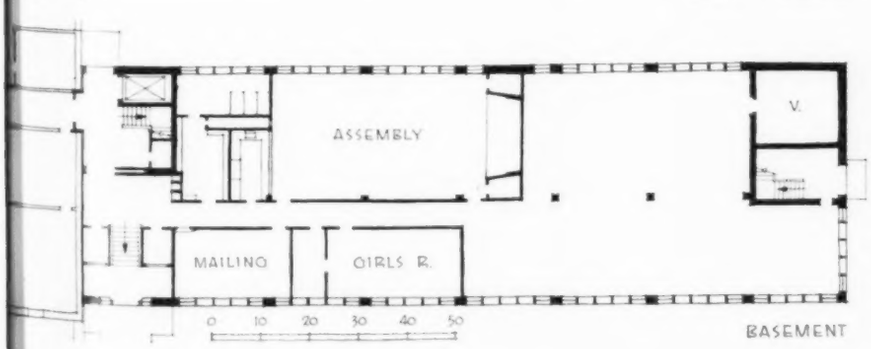




PORTION OF SECOND FLOOR



MAIN FLOOR



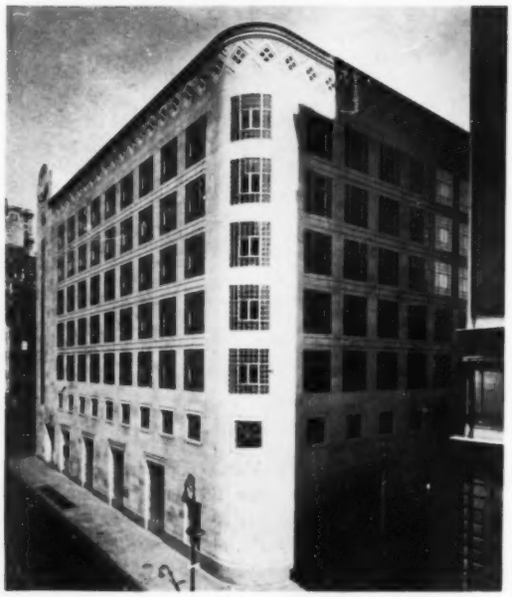
BASEMENT

Architects MOORE and SALSBURY designed this three-story, 158 by 50-ft. addition to the offices of the Stanley Works at New Britain, Conn.

WITH INCREASING NUMBERS of manufacturing plants, with modernizations, with sales, credit and management forces quartered in or near the factory, plant office buildings become increasingly important. Most examples, like this Stanley building, are simple, efficient structures. Good working conditions are demanded as a matter of course.

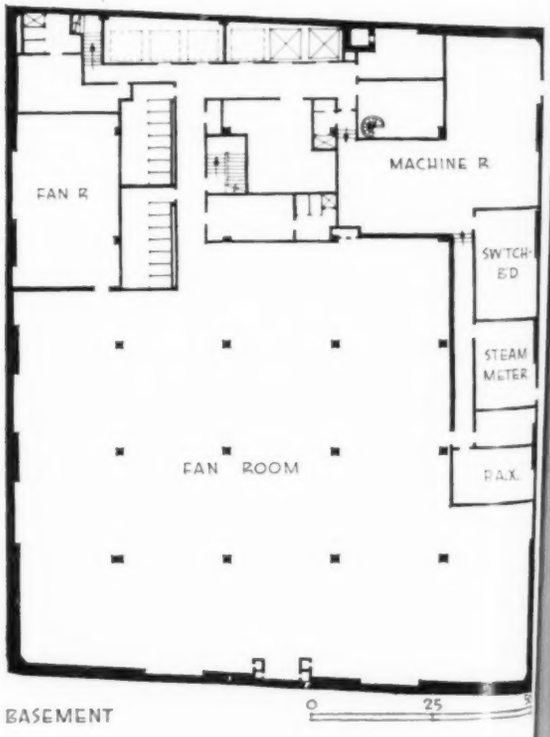
In the Stanley Works offices, doors between old and new offices are of tempered plate glass, frameless, automatically opened by photoelectric-cell controls. Quantities of glass block, aluminum Venetian blinds, and semidirect luminaires supply adequate light. Ceilings are acoustically treated.

Photos by Mattie Edwards Hewitt



LOWER FLOORS SEALED AGAINST NOISE AND DIRT

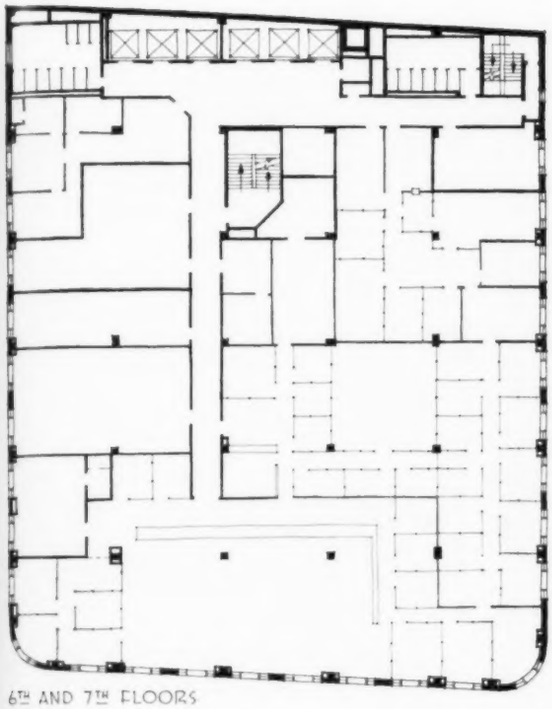
The building designed by CROSS & CROSS, Architects, with EGGERS & HIGGINS, Associates, for the Aetna Life and Affiliated Companies in downtown New York City, faced several interesting problems: exclusion of the financial district's noise and dirt; and ground-floor circulation for two different sets of tenants



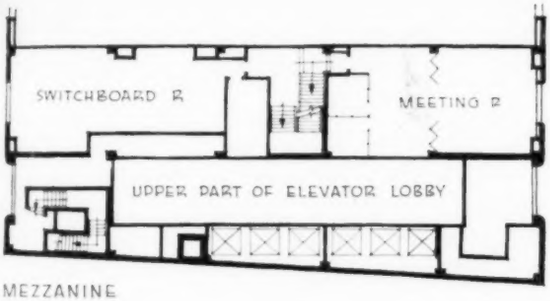
BASEMENT

BY THE USE OF GLASS BLOCK instead of conventional windows on lower floors, noise and dirt have been largely excluded from this seven-story structure. At upper floors, steel sash are set into glass-block areas. In order to make the most of what natural light penetrates between the district's tall buildings, the structure's cornice was omitted, and a corner of the building was rounded so it would cut off fewer light rays. To aid in controlling noise, ceilings are acoustically treated, and upper-story floors are surfaced with heavy linoleum.

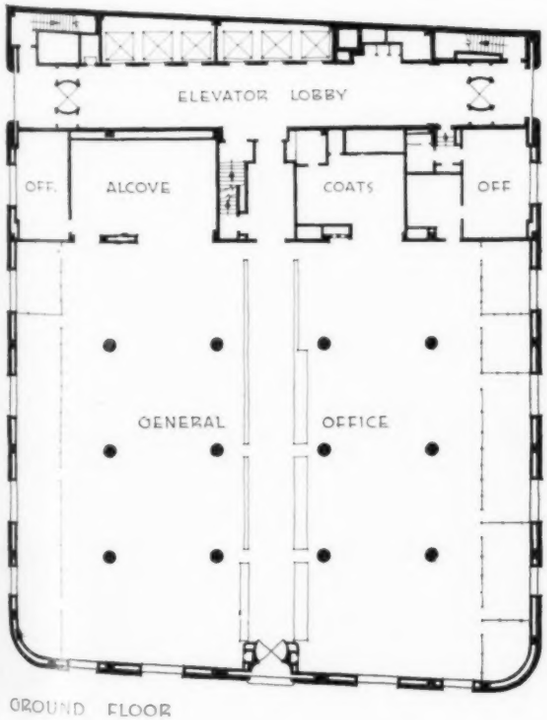
Across the rear is the elevator lobby, with doors at either end (one for upper-floor tenants, the other for service). Aetna Life offices are entered from the main door; tenants are affiliates and company agencies, whose offices require some connection to Aetna Life offices, but are, in the main, independent.



6TH AND 7TH FLOORS



MEZZANINE

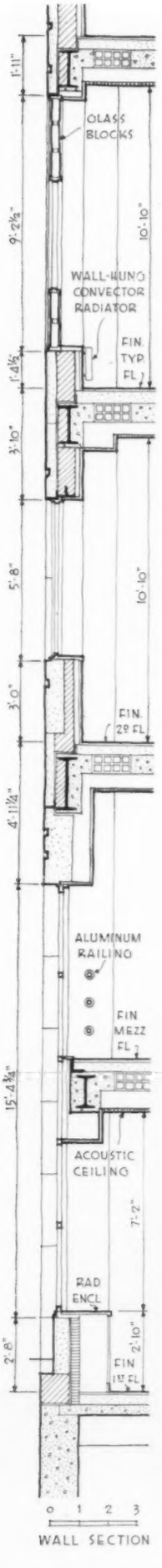


GROUND FLOOR

TYPICAL MAIN-OFFICE WORK SPACE. Lighting fixtures were tested exhaustively by the owner's engineers. Top photo shows elevator lobby.

AETNA BUILDING

CROSS & CROSS, Architects **EGGERS & HIGGINS, Associates**

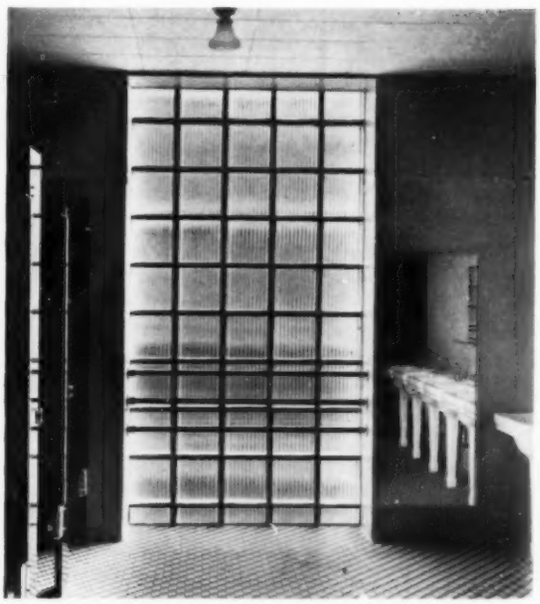


WALL SECTION

ROOF OF THE BUILDING, shown immediately above, is reserved for employees' recreation. The building has six 750-ft.-per-min. elevators, and electric dumbwaiters for mail distribution. There is a central system for distributing drinking water, another for vacuum cleaning, and an extensive under-floor electrical grid. Ventilating system can be converted to air conditioning. Structure is designed for two additional stories.

EXECUTIVE'S OFFICE

One of the SECONDARY ENTRANCES



TYPICAL WASHROOM

TELEPHONE INSTALLATION—COMMERCIAL BUILDINGS

ARCHITECTURAL RECORD
TIME-SAVER STANDARDS
DECEMBER 1940

Information on this sheet is intended to provide preliminary data on equipment sizes and installation practice for telephone systems in large buildings such as office buildings. Telephone companies will furnish, install and maintain complete systems, but they do not provide for facilities which of necessity become a permanent part of the building. Data have been collected by Ronald Allwork. Information was obtained from American Telephone and Telegraph Company engineers and from publications of The Bell System.

Cables require facilities which will permit them to be extended into and through the building. These consist of the following units, in sequence (numbers refer to diagram):

(1) Service entrance; **(2)** main cable terminal cabinet or room; **(3)** riser shaft (or vertical riser conduit); **(4)** splicing closet (or splicing cabinet); **(5)** floor conduit (between units 4 and 6); **(6)** distribution terminal cabinet.

These facilities are built into the building and are provided by the building owner.

Requirements vary according to type of building. Provision for frequent changes has to be made in loft and office buildings; institutions and public buildings also require flexible service. Thus all facilities must be designed for the maximum needs likely to be encountered. Sizes and location of facilities, length of conduit, radii of bends, etc. are determined by sizes of cables, working space required for splicing, etc., and the telephone company should be consulted in all cases.

Service entrances are of two types: **(1)** underground (most common); and **(2)** overhead. The exact point of entrance is preferably determined by the telephone company, and is best located so that cables, in being brought to the main cable terminal cabinet or room:

(a) will be removed from electric-light or power circuits or apparatus, and from gas or water pipes or other grounded metallic objects;

(b) will be located where liability to mechanical injury is at a minimum;

(c) will follow the shortest route from the point of entrance to the main cable terminal cabinet or room;

(d) will be attached to permanent walls or ceilings.

Underground service entrance: Arrangements should be made either to leave an opening in the foundation wall, or to install sewer tile sleeves.

Overhead service entrance requires the advice of telephone company engineers as to location and size of conduit. In some instances protectors are needed.

Main terminal cabinet or room: Type of terminal facilities depends on size of installation. Small sizes of wall-type terminals are mounted in metal cabinets which are attached to or recessed in permanent walls or columns. If the cabinet is an integral part of the building it is supplied by the building owner. Large sizes of wall-type terminals and all frame-type terminals (terminals mounted on frames accessible from both sides) should be located in rooms which are intended for the purpose and constructed of fire-resisting materials. It is important that the terminal cabinet or room be in a dry, clean, well-lighted, well-ventilated space. A double electric outlet is required.

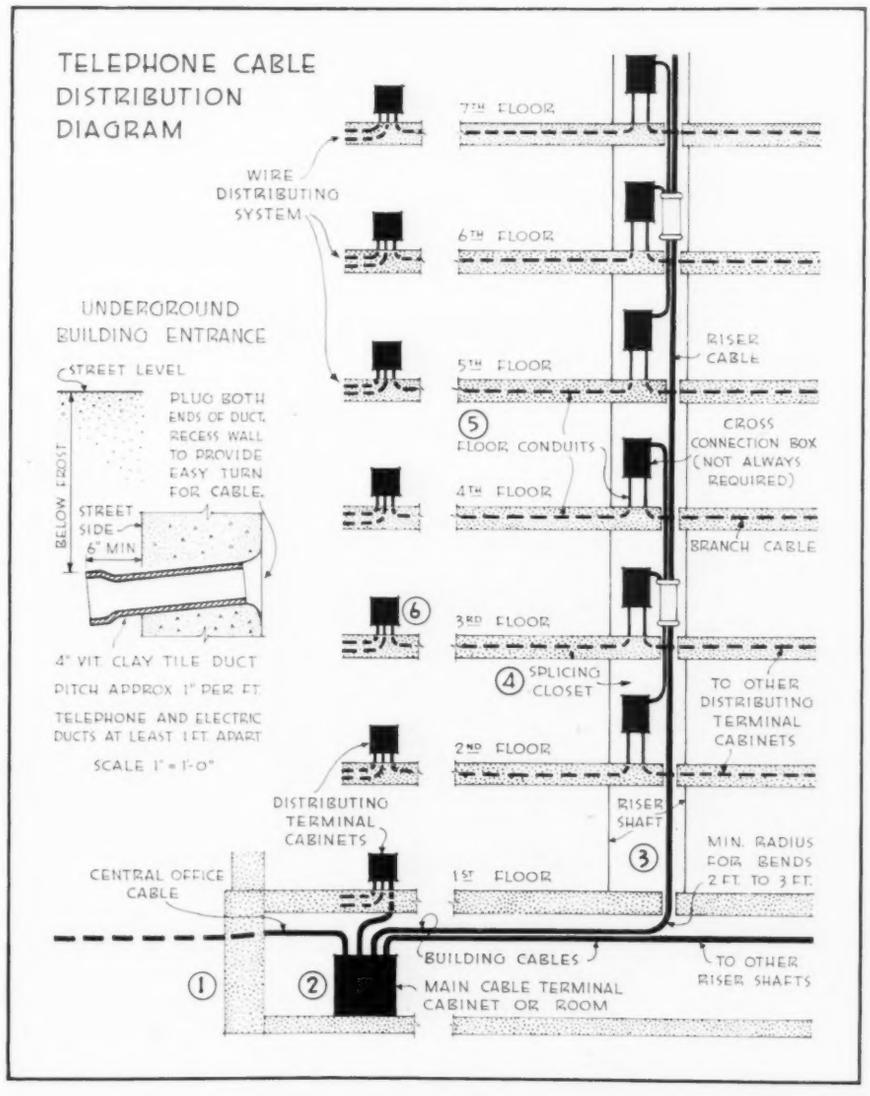
Riser shafts or vertical riser conduits: Riser shafts generally afford the most satisfactory means of vertical distribution for cables, although conduit is often used in the smaller buildings.

Risers, whether shaft or conduit, require central locations in relation to the floor area each riser serves. Buildings with large floor areas, or with floors so planned as to result in two or more distinct areas, will probably need a separate riser for each area. The riser has to be readily accessible from a corridor or other public space. A riser shaft is in fact a series of individual full-length interconnecting closets, called splicing closets, which are aligned vertically, one on each floor and each fitted with a fireproof access door. Slots in the floors form a clear, unbroken opening (except for fire stops) normally extending from top to bottom of the building.

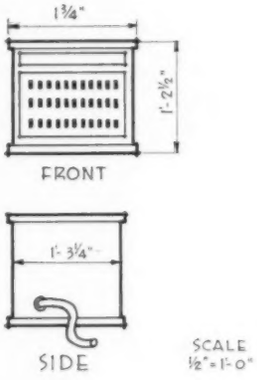
A riser conduit system consists of a series of metal cabinets, called splicing cabinets, aligned vertically through the building, one on each floor, and connected by vertical conduit. The usefulness of a riser conduit system depends on its being properly designed, and the telephone company should be consulted.

The splicing closets, or splicing cabinets, permit the riser cables in the shaft or riser conduit to be spliced or interconnected to the cables or telephone wires on the various floors.

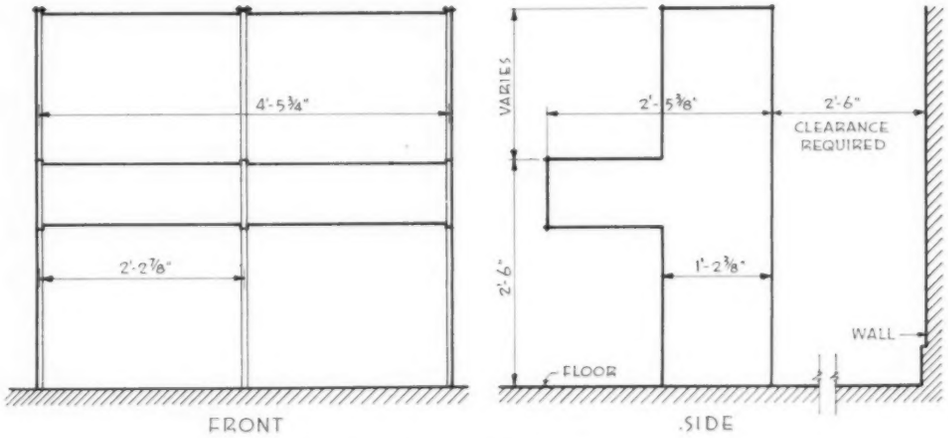
Floor conduits connect the splicing closets or splicing cabinets to the distribution terminal cabinets. They permit cables and wires to be placed between the splicing closets or cabinets and the distribution terminal cabinets or underfloor ducts, wall outlets, etc.



TELEPHONE INSTALLATION—COMMERCIAL BUILDINGS

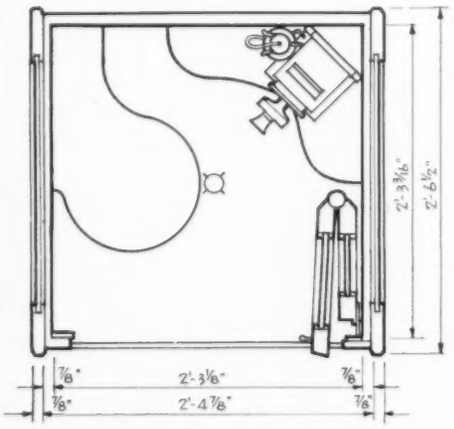


DESK-TYPE SWITCHBOARD

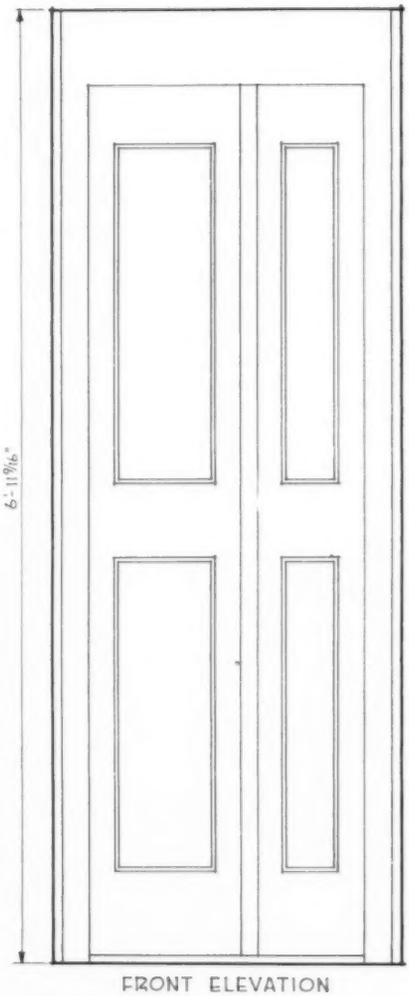


FLOOR-TYPE SWITCHBOARD

NOTE – DIMENSIONAL DATA AND OTHER DETAILS PERTAINING TO THE CONSTRUCTION OF BOOTHS "BUILT IN" AS A PERMANENT PART OF THE BUILDING, AND TO RELATED FACILITIES SUCH AS DIRECTORY RACKS, LIGHTING REQUIREMENTS, ATTENDANT SWITCHBOARD (WHERE REQUIRED) ETC., ARE AVAILABLE AND MAY BE OBTAINED FROM THE TELEPHONE COMPANY.

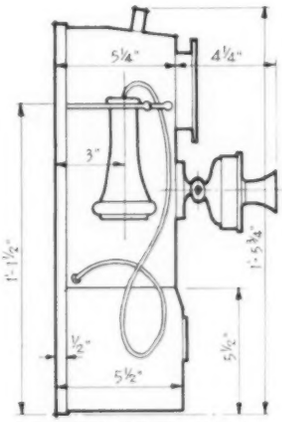


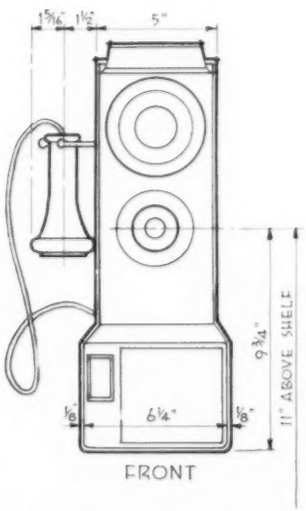
PLAN



FRONT ELEVATION

TELEPHONE BOOTH
SCALE ¾"=1'-0"





PAY TELEPHONE (WALL TYPE)
SCALE 1½"=1'-0"

FLASHINGS—MULTISTORY MASONRY WALLS

ARCHITECTURAL RECORD
TIME-SAVER STANDARDS
DECEMBER 1940

Information on this sheet was collected and prepared by Ronald Allwork. Sources include the publications of The British Building Research Station, Copper and Brass Research Association, and The Nat'n'l. Assn. of Sheet Metal Contractors.

GENERAL

Moisture penetrates masonry walls because either *a*, the porous nature of the wall material permits; or *b*, the opening up of joints as a result of expansion and contraction induces penetration, or both. Depth to which moisture penetrates cannot be precisely determined, but is 4½ in. on the average, possibly 9 in. under severe conditions. (This does not apply to walls subject to continuous or prolonged wetting.) Diagrams at right show possible courses of penetration for typical walls. Note that points of final penetration often occur immediately after water has encountered a change of material in its downward course.

Parapet walls are exposed to weather on both sides and top. Because few forms of construction will withstand such exposure, particularly penetration from the top, the coping is of first importance.

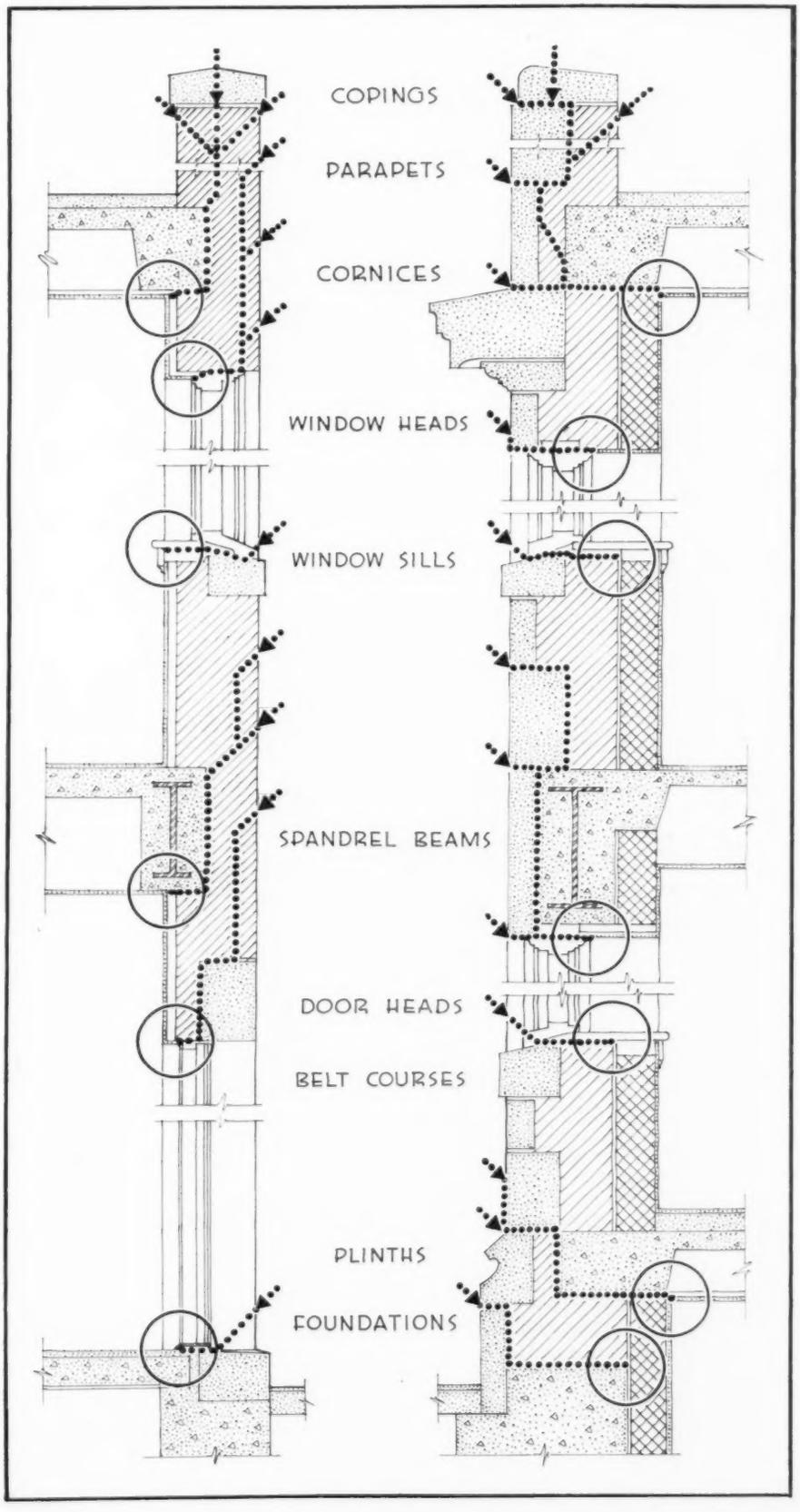
Copings will provide greater protection for walls if they are: *a*, made of a material of low permeability and good frost resistance; *b*, given an overhang and provided with a drip; *c*, designed to shed water in direction of roof; and *d*, provided with saddle-back (or similar) joints.

DESIGN OF WALL FLASHINGS

(1) *Consider the effective life of a flashing material* in relation to the life of the wall.
(2) *Bear in mind the corrosion factor of the flashing material* due to *a*, local atmospheric conditions; and *b*, contact with wall materials.
(3) *Investigate the suitability of the flashing material* from the standpoint of *a*, tensile strength to withstand perforation; *b*, flexibility to conform to mortar bed; and *c*, resistance to squeezing out due to weight of wall.
(4) *Study location of flashings* to provide for the diversion of water to the exterior surface of the wall at its vulnerable points.
(5) *Provide for stability of the masonry* above "through-wall" flashings by use of dowels, keying, steps, or other means.

TYPES OF FLASHINGS

Sheet metal, metal-and-paper, and fabric (or membrane) flashings are available either as basic sheet materials, from which flashings are job-fabricated; or as preformed flashings. Most of the latter are patented types offered under various trade names. Fabric flashings are also available with integral reinforcing; and both metal and fabric types can be obtained in special shapes (or with other special provisions) for maintaining an effective masonry bond.



ARCHITECTURAL RECORD
TIME-SAVER STANDARDS

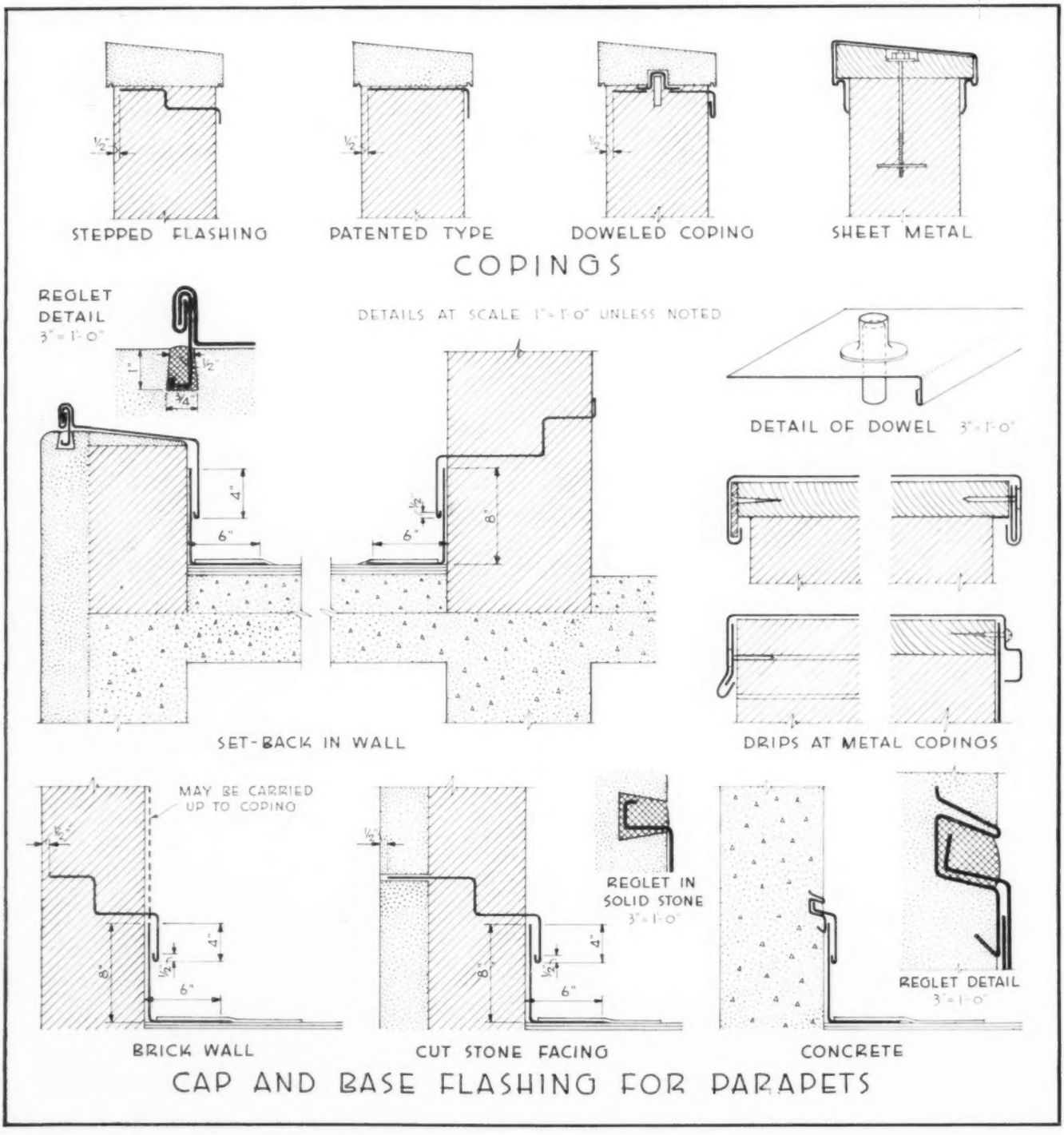
DECEMBER 1940

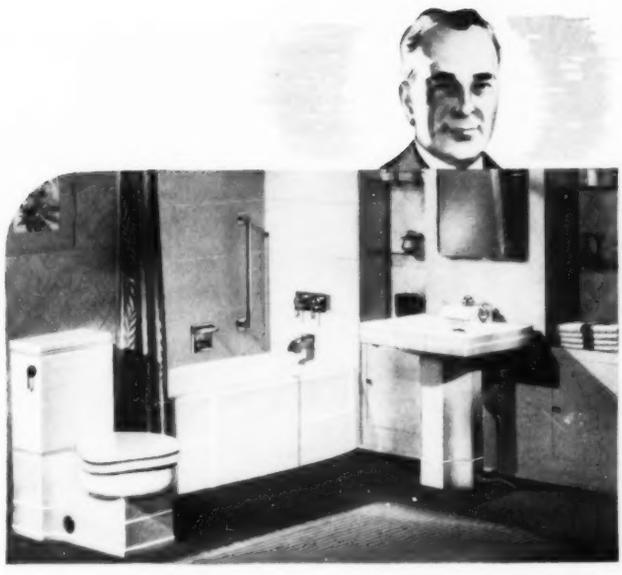
FLASHINGS—MASONRY WALLS—Copings and Parapets

Copings may be flashed in one of the following ways to maintain a bond with the wall: (a) by use of a step in the flashing; (b) by use of a straight flashing, and the provision for dowels to secure the coping; or (c) by use of a shaped flashing which assures a bond between the flashing and mortar.

Parapet walls are usually provided with through-wall flashing subjected to the same considerations mentioned above. Base flashings may be carried up under coping flashing, which then has to be extended and turned down to form a cap. If wall is higher than 2 ft., base flashing needs vertical standing seams.

Reglets are needed in concrete or solid stone construction to secure flashing. Flashing is held in reglet by lead plugs 12 in. o.c. Intervening spaces are filled with lead wool or elastic caulking compound. Flashings received by reglets are preferably small to avoid results of movement due to temperature changes.





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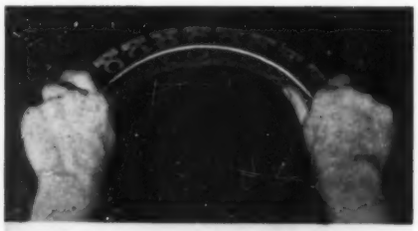

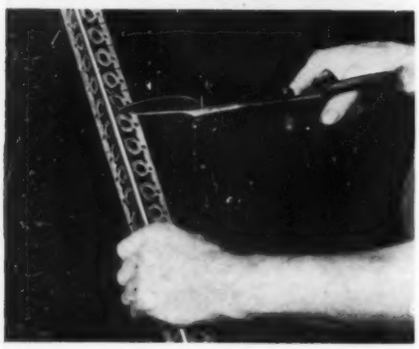

Figure 1

Bendable Beads

A CORNER BEAD that can be bent into any desired curve by hand, yet may also be used for any rigid plumb-line vertical or horizontal corner, offers new ease of preparation of plaster arches and curves. The bead can be used straight or formed right on the job, without special tools or equipment, into a smooth arc with no kinks or breaks in the nose. To prepare the bead for bending, the outside flange is cut through at intervals along the section to be curved, allowing the cut sections to spread open under the bending action. The curve is then easily produced by hand. *Milcor Arch Bead*, Milcor Steel Company, Milwaukee, Wis. (See figure 1.)

Slip Streams for Drafting Tables

STREAMLINED drafting table! Tubular steel supports, hand-wheel table adjustment highlight a new drafting table. Stronger than a wood table, it is claimed, and far less clumsy, the new table is designed to make height and tilt adjustments as effortless as possible, to provide comfortably placed foot rests, and to eliminate sharp, projecting undercarriages. Tubular metal supports have satin chrome finishes; adjustment castings are finished in black enamel; table tops are of soft textured pine, 1⅛ in. thick. A detachable shelf for reference drawings and materials is also available in various sizes. Eleven table sizes range from 31 by 42, to 48 by 96 in. *Metapost Table*, Frederick Post Company, Hamlin and Avondale Avenues, Chicago, Ill. (See figure 2.)

Figure 2

Little Business for Architects

MINIATURE LUMBER enables architects to build their own house models. A complete line of miniature building materials now available include brickwork, siding, shingles, door and window frames, shutters, spandrels, and sills. To facilitate use, siding, shingles, and brickwork are not individual pieces, but are manufactured in board form to a scale of ½ in. to the foot. *Tiny-Bilt Scale Model Products*, Architectural Decorating Co., 1600 S. Jefferson Street, Chicago, Ill. (See figure 3.)

Figure 3

Blueprint Caches

STEEL BLUEPRINT CABINETS that can be bolted into solid batteries for easier, more rigid use, provide better blueprint storage, allow for ready reference, it is claimed. The unit cabinet has eight drawers, each with a hood in the rear and a lift compressor in the front to hold prints flat and in place. Drawers will accommodate drawings up to 24 by 35 in. *Plan File or Blueprint Cabinet*, Standard Steel Products Company, Poughkeepsie, N. Y.

Tough-to-Everything Floor Paint

AN ALKALI- AND MOISTURE-PROOF paint for wood or concrete floors employs a chlorinated rubber base which, it is reported, renders it gasoline, oil, grease, alkali, moisture, sunlight, and lime-proof; makes it suitable for use on basement floors, outdoor concrete porch floors, garage floors, or outside walks laid directly on the ground. The new paint contains no linseed oil, flows easily, and brushes out smoothly. Dries in 48 hours, may be walked on after only a few hours' drying. While recommended for exposed floors, it may also be used for sales and display rooms, offices, hotels, hospitals, printing plants, factories, laboratories, bottling plants, dairies, and food plants. It is made in six colors: two grays, brown, green, blue, and red. *Paratex*, Truscon Laboratories, Inc., Detroit, Mich.

Concrete Fills Out New Forms

SMOOTHER, STRONGER concrete surfaces are obtained with a new form liner. Made of felted wood fibers, the new lining prevents the formation of water and air voids formerly created by the use of vibration-placed concrete. The finished concrete surface, as a result, is improved in appearance, more resistant to weathering, abrasion, and chemical attack. The smoother, dryer surface, according to tests conducted by the manufacturer, is stronger and more craze resistant. On interior walls, the use of a covering coat of plaster is unnecessary. *Absorptive Form Liner*, Fir-Tex, 1108 Porter Building, Portland, Oreg.

(Continued on page 98)

EVERY OUTLET DESERVES A BRYANT DEVICE

BOX MOUNTING LAMPHOLDERS

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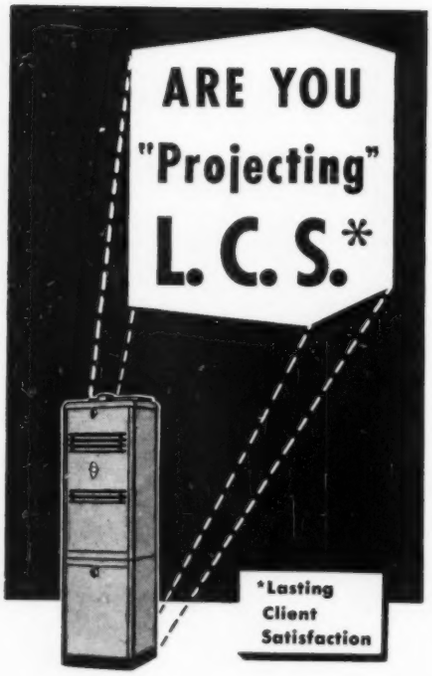

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 (Continued from page 96)

Wall-Hung Electric Heater

A SURFACE-MOUNTED electric wall heater with fan-forced circulation is recommended by its manufacturer for use in homes, offices, factories, stores, where wall construction makes a recessed heater impracticable. The new heaters range in capacity from 1,500 to 6,000 watts; are easily mounted on any wall surface, and project only 6 in. into the room. An induction-type motor—to eliminate radio interference—operates the fan. *Wall-Attachable Heetaires*, Markel Electric Products, Inc., Buffalo, N. Y. (See figure 4.)

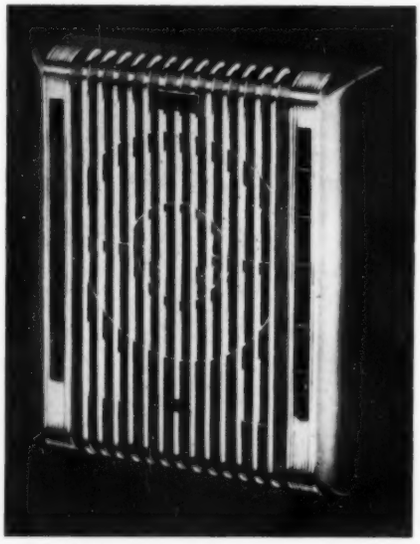


Figure 4

For Decorating Glass Block

A PROCESS for decorating conventional hollow glass blocks with applied designs of fused-glass powders opens up a new field of decoration for glass-block walls and partitions. An entire range of colors is available, it is claimed, as well as all degrees of opacity. Both the design and the colors used have the unique property of being visible as a transparency or as an illuminated design, depending on light position, in front or in back of the glass. According to the manufacturer, any design or pattern can be produced. Further advantages claimed for the process are that the applied colors, being composed of pure glass, are nonfading; they may be washed or scrubbed; lime and water will not affect them. *Block De Cor*, Rambusch Craftsmen, 2 West 45th Street, New York City. (See figure 5.)

Figure 5

Slick Wallboard

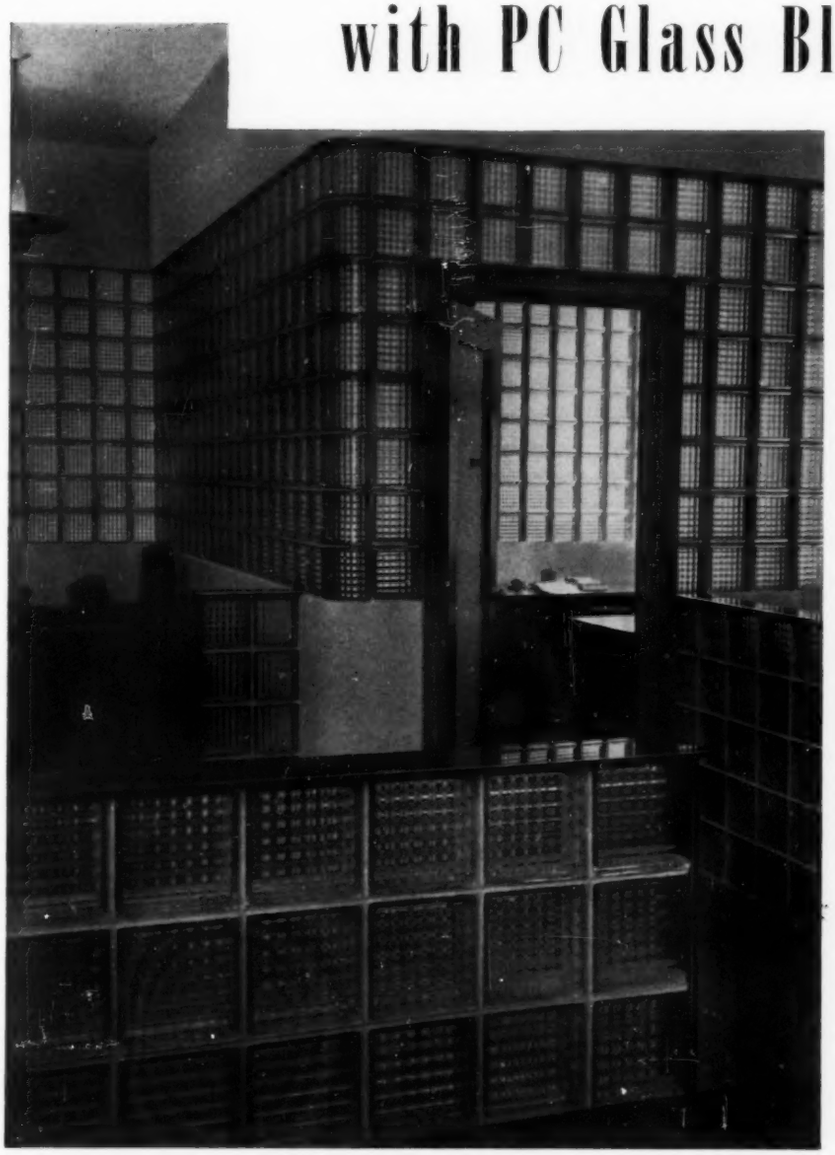
A LOW-COST, glazed surface wallboard is recommended by its manufacturer wherever a permanent, sanitary, tile-like wall or ceiling finish is desired. The board is an oil-treated presdwood material with a hard, glazed, baked-on surface which completely seals the pores of the board against moisture and dirt. Acids, alkalis, and nonabrasive cleaning compounds are repelled, assuring a stainproof, easy-to-clean surface. Sawed, planed, and fitted with carpenter tools, the board is held securely to its base by means of a special mastic. Cap, base, and bathtub moldings are also provided to complete installations. Two surfaces are available, tile-scored and plain; board sizes are: 4 by 6, 4 by 8, and 4 by 12 ft. Thickness is 5/32 in. It is available in five pastel colors plus black and white. *Macolite*, Marsh Wall Products, Inc., Dover, Ohio.

New Window Swings from the Waist

A NEW PIVOTED WINDOW from Sweden, requiring no muntins and sash frames, provides from 35 to 50% more light, greater vision, built-in sunshield, draftless ventilation, inside cleaning. The new window, now extensively used in northern Europe, is made here in two models. First of these consists simply of a single sash pivoted in the horizontal middle, so that when opened, the head of the sash swings into the room, the foot outward. An integral shade, built into the sash, provides sun protection and privacy. This type is recommended for air-conditioned buildings or for use where no protection against insects is required. The second type duplicates the pivoted sash, but employs, in addition, a single transom-type sash set below the larger sash. The transom, easily screened, may be used for summer ventilation. *Perspective Windows*, Perspective Windows, Inc., Chicago, Ill.

(Continued on page 108)

Now... Partitions *Designed for "Daylighting"* with PC Glass Blocks



OFFICE PARTITIONS OF GLASS BLOCKS *help "daylighting," preserve privacy, increase office beauty and are easily erected or dismantled.*

PC GLASS BLOCK partitions transmit daylight generously, making offices brighter, better lighted. They bring "borrowed" light from one office to the next, or from corridors into offices. Depending upon the pattern of blocks used, they can direct or diffuse the daylight as desired. At the same time, they are strict guardians of office privacy, because they are non-transparent, and because they effectively insulate against outside noises.

Architects have found that PC Glass Block partitions serve other practical purposes, as well. Their high insulation value cuts down heating costs, makes offices more comfortable. Their easy cleaning properties insure lower cleaning costs. And they are quickly and easily installed.

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NEWS FROM WASHINGTON

(Continued from page 44)

of drafting specifications under which a general contractor can erect prefabricated houses. But it is likely that something definite will develop before our next issue.

Since demountability is a point in thousands of the units which will be built, the business is potentially big enough to enable the prefab industry to reduce costs through larger production and to iron out kinks by large-scale experience both at the factory and at the site.

The effect on private architects, on the surface, does not seem to be large as far as the defense program itself is concerned. It is evident that they could not get any less work on prefab projects than on the present ones built by standard plans sent out from Washington.

Defense housing shortages

Several cities where there is an acute shortage of housing facilities for defense have been announced by the President. A deficiency totaling 6,750 dwelling units is found in Jacksonville; Pensacola; Charleston, S. C.; Indianhead, Md.; New London, Conn.; Boston; Vallejo, Calif.; Bremerton, Wash.; and the Island of Oahu, Hawaii. The finding is that the housing will not be provided by private capital and will require funds from the Lanham Act appropriation.

Defense Coordinator Palmer meanwhile has announced plans to stimulate private building in strategic centers. Philip Norton of Los Angeles will act as special consultant for the area west of the Mississippi. He will work out vacancy registrations such as already are being made in the eastern area to determine the need for providing housing for workers.

Morton Bodfish has been appointed as a dollar-a-year consultant on the general problem of financing homes with private capital.

Clark Foreman, head of the PWA power division, has been named an assistant to Federal Works Administrator John M. Carmody with duties to include housing matters.

DEFENSE ACTIVITY BROADENS SCOPE OF BUILDING NEEDS

Population shifts affect schools; increased construction indicated but no sign of boom prices; slight rise in labor rates foreseen

—By Peter A. Stone

HOUSING IS NOT the only type of construction to be stimulated by the defense program. One of the important items of current interest to architects is the fact that responsible Washington officials are beginning to consider the secondary effects of expansion in defense-active areas. The vast increase in employment in certain areas is already beginning to be felt in schools and related public buildings. So important is this considered that the Senate passed a resolution requiring the Army and Navy to report on (1) the effect of defense activities on the school burden, and (2) the ability of political subdivisions to meet this added burden.

In the last five years a large portion of the Public Works Administration funds has been used for building and rehabilitation of schools. To this extent the added burden may easily be provided for in some places. However, in a good many places this cannot be met by present facilities, which presents the possibility for construction of additional schools and other public buildings.

It is quite within the realm of possibility that the next five years may see a growth in cities comparable to that of the 1920's, with all of its attendant construction of schools, churches, and commercial buildings. The report of the Army and Navy on this subject will probably be presented to the Congress early next year, and may result in further appropriations to aid in the construction of such facilities.

In this respect an important item that should be watched by architects is the little-known bill (S. 4387) introduced in the Senate by Senator Wiley of Wisconsin, which would require that sketch plans for all public buildings be submitted to the War Department for approval. Undoubtedly the sponsors have in mind the designing of public buildings in relation to possible air attack. The bill, if passed, may result in important design changes affecting public buildings, principally those within 250 miles of any U. S. border.

Priorities Board appointed

The President has created a Priorities Board in the National Defense Commission, which will be administered by Donald M. Nelson, Coordinator of National Defense Purchases. The duties of the Board will be to establish principles and policy to govern the operation of a priority system and to settle conflicts arising from the impact of the defense program.

Apparently the manner in which the priority system will operate will be through preference ratings rather than complete prohibitions as to use; that is, the orders of various industries will be rated in the order of preference. However, these will not be blanket ratings, according to the recent announcement of the new Priorities Board; but the top rating, which to date has not been used for any given item, would take immediate precedence over all other contracts —private or Government. It is indicated that such ratings will be given only in exceptional emergencies.

The only ratings indicated so far would be for machines for machine tool builders. Probably the next rating would be for machine tools. It is highly unlikely that any rating will be given to construction materials.

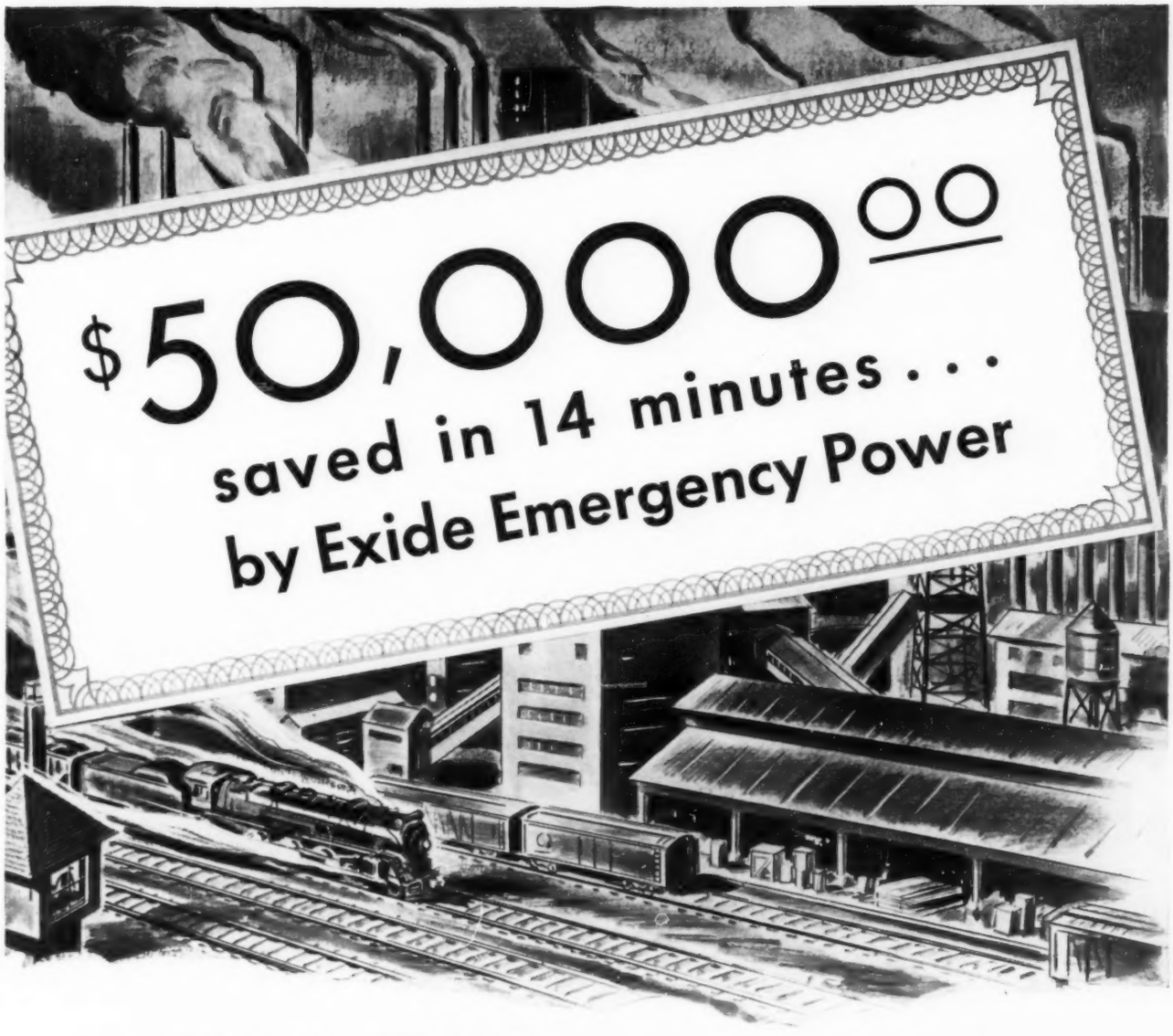
In 1917-18, non-war construction was virtually prohibited due to priorities for war materials.

Nevertheless, while the vast present and expected increase in construction activities will result in a considerably greater use of the present capacities of construction materials and supplies industries, construction now in prospect does not indicate a use of that capacity equivalent to the boom period of the 1920's. Consequently, while material prices are expected to be affected to some extent, there is no reason at present to believe that defense activities should cause boom prices.

Lumber prices up

The only material prices that have been affected so far have been lumber

(Continued on page 102)



. . . AMERICA'S DEFENSE INDUSTRIES NEED THIS SAME SURE PROTECTION

IN AMERICA'S defense program, many new industrial buildings need the adequate, unfailing protection of Exide Emergency Light and Power. Failure of the normal electric current supply can often mean far more than a plant tie-up lasting a few minutes or hours. It can result in damage to equipment that it may take months to replace.

For example—A large plate glass company suffered an electric power interruption, during which the Exide Emergency Battery carried the power load of about 720 amperes. The emergency lasted only 14 minutes, but plant officials estimate that more than $50,000 damage to their equipment would have resulted if they had been without such protection.

The utility companies take every precaution, but cannot control the effects of storms, floods, fires, or street accidents. Exide Emergency Units, supplying light or power, or both, operate *instantaneously* and *automatically* upon any interruption of the normal electric supply. They are easily and economically maintained by the normal staff of a plant.

If you are working on a project that needs this unfailing protection, wire or write the nearest Exide Branch and an experienced Exide Field Engineer will call promptly to help with plans and specifications.

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Look At The Whole System

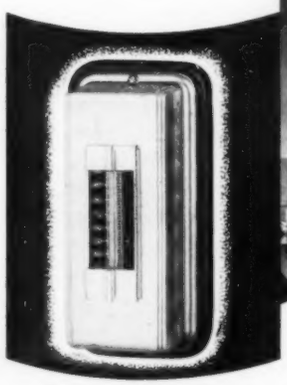
Efficient devices are valuable only if they function perfectly as part of the whole. Consequently, Johnson stresses the importance of complete control systems, designs, manufactures, installs, and services its own installations. A nation-wide organization stands ready to supply information on installing new or rehabilitating existing systems of automatic control. There is no obligation.

Fort Worth National Bank Bldg., Ft. Worth, Texas. Weil & Moses, consulting engineers, New Orleans. C. Wallace Plbg. Company, air conditioning, Dallas.

Georgia Power Company Building, Atlanta, Georgia. Air conditioning by the Atlanta Office of York Ice Machinery Corporation, York, Pa.

First National Bank Bldg., Atlanta, Ga. Newcomb & Boyd, consulting engineers, Atlanta. Atlanta Office of York Ice Machinery Corp., air conditioning.

Alfred I. duPont Bldg., Miami, Fla. Marsh & Saxelbye, architects, Jacksonville. Pennsylvania Engineering Company, air conditioning, Philadelphia.



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TRENDS IN BRIEF

(Continued from page 100)

prices. The lumber industry has increased prices, particularly for Southern Pine common lumber, to the extent of about 20%, due, of course, to the enormous quantities of Southern Pine lumber used in cantonment building in the Southeastern states. This has had a secondary effect on other species of lumber. The cantonment building, by all indications, will be completed about June of next year. Thus the pressure will be relieved and it is expected the price will drop some, although not to its pre-defense level.

Except for the Southern Pine section of the industry, production is at approximately 60% of capacity. A considerable increase in demand would be necessary in order to bring about a more permanent rise in lumber prices, lumber, of course, being the most important item in construction. For large-scale construction neither cement nor brick have shown any tendency to increase, and if such increases do take place they should be slight.

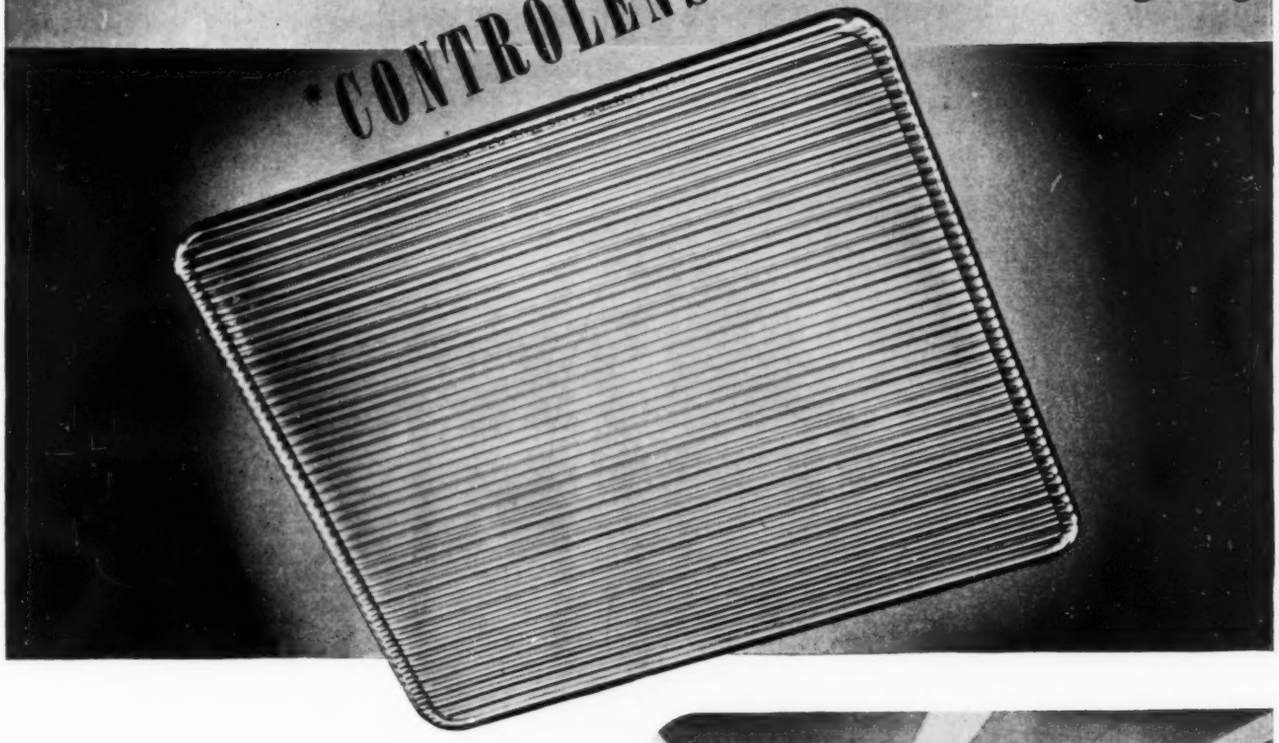
Effect of CIO salutary?

Some increases may be expected in labor rates next spring, but these, too, should be slight and sporadic. One factor that may be taken into consideration in some areas is the growth of the CIO Construction Workers' Union. One of the principal effects of this Union, where it has attained any strength, is that through its type of organization there is the chance of eliminating any jurisdictional disputes, and in the long run, given the same wage rates as the regular AFofL unions, there is the possibility of lowering labor cost through more efficient organization and operation.

The growth of the CIO Union has also had a salutary effect on the AFofL, in that its jurisdictional disputes are being kept at a minimum. On the other hand, there is the possibility of strikes and disputes in many areas where the two Unions are evenly matched and fighting for jurisdiction. On the whole it is believed that the advent of the CIO Union has been a beneficial factor, at least in areas where it has sufficient strength, in permitting the use of new types of construction, principally the assembly of prefabricated units, which has been frowned upon by AFofL Unions.

(This section continued on page 104)

Predicted Performance... *CONTROLENS... for Fluorescent Lighting



In the use of Fluorescent lamps, lighting experts have stressed the need for careful planning *before* each new installation. *After* the fixtures are installed, there is no possible adjustment for error, no opportunity for change to lamps of higher wattage. The foot candles must be sufficient from the outset. Thus, the introduction of this Holophane Controlens, engineered for "predicted performance," is important news for those interested in Fluorescent . . . Authorities have pointed out that Fluorescent lamps should be enclosed or shielded when used for general lighting. This Controlens meets that requirement, at the same time providing added utilization efficiency, accurate control, low brightness, fine appearance and decreased depreciation . . . Write today for data prepared especially for architectural reference and application.

In the offices of E. R. Squibb & Sons, New York

Holophane No. 11-E-12 Controlenses have been used continuously — in troughs on five-foot centers — flush with the ceiling — 40-watt Mazda F lamps. Measurements show an average illumination of 50 foot candles.

Designer, Donald Deskey.

Associated Architect, R. Doulton Stott.

Installation, Polarizing Instrument Company.

Photo, courtesy of Mary-Nelle Griffith.

● *The Holophane Engineering staff will be glad to extend consultation and advice to architects on any specific lighting problem without charge.*

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 (Continued from page 102)

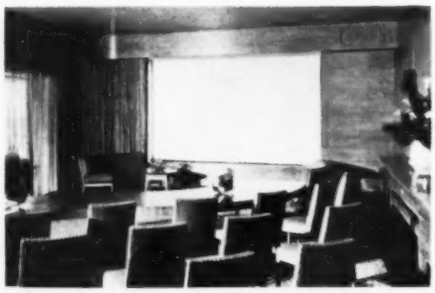
HOME MOVIE PROJECTION CREATES NEW DESIGN PROBLEM

Growing practice favors designating one particular room as movie theater and making structural provisions for equipment

ONE OF THE NEWEST additions to household activities is the projection of motion pictures and slide films. So rapid has been its emergence as a national pastime, that the problem of providing for projecting, viewing, and screening must be seriously considered by the architect when designing the modern house.

The auditorium demands first consideration. Although most projection equipment is conveniently portable, enabling its use anywhere, growing practice favors setting aside one room in the house as the movie theatre and making structural provision for equipment. This room may be the living room, study, or basement recreation room. The size and extent of the built-in provisions may include any or all of the following: shelf or booth for projector, built-in screen, light-tight window blinds, light-tight fan ventilator, and closet for films, camera, projector, and other accessories.

Provision may also be made for a built-in radio-phonograph with automatic record changer to provide musical accompaniment when desired. If space is available, a darkroom may be built adjoining the theatre, useful in developing and printing black and white stills and motion pictures.



Above: Concealable beaded-glass movie-projection screen in a Chicago house. Below: Wall screen in the New York office of Gilbert Rohde, Designer.

Present screens are a far cry from the loose sheet used for lantern-slide projections 'way back when. Today, a variety of surfaces, frames, and sizes are available, each with its special advantages. The onrush of colored movies, however, has favored the use of beaded-glass and mat white surfaces, which, with their high reflectivity and brilliance, neither distort nor absorb projected colors.

The size of the screen will be determined by the "throw," or distance to the projector, and the length of the lens focus, a variable for different makes of projectors. Tables giving image sizes at various distances are provided by each manufacturer.

Three types of screen mounting are generally available for home use. These comprise portable, roller, and frame types. They may be folded up, rolled up, or applied to the wall. Roller and frame types may be hung from either walls or ceiling. They may be concealed behind architectural treatment, or left exposed. All screens, however, should be protected against dust and damage when not in use, by means of covers or boxes.

Viewing angles play important roles in planning the auditorium. Best angle is included in a 0 to 25° angle with the screen-projector axis, although an angle up to 45° with the axis also provides reasonably undistorted viewing. Hanging ceiling fixtures should be so placed that they won't be caught in the beam of the projection. Other electric outlets should be so switched that the operator can conveniently control the "house" lights. Storage room for films and other equipment should adjoin the theatre if possible. Particular care should be exercised, however, to avoid keeping films, especially color films, in a damp place.

(This section continued on page 106)

(Left) Southern California Gas Co., Los Angeles (Below) Suffolk University, Boston

(Above) Hampton Beach (N. H.) Bath House

MAKE ROOF AREAS USABLE *with*

Carey Elastite ASPHALT TILE

Those roof areas that are so valuable for sun decks, roof garden, recreational activities — give them a tough, durable, fire-and-weather resistant surfacing with CAREY Elastite Asphalt Tile.

FIRESAFE

This improved tile is a compound of asphalt and mineral filler, reinforced with asbestos fibres, densely compressed and die cut to size. Approved by Underwriters' Laboratories for "Class A" built-up roofing, when applied in accordance with their instructions, on slopes up to and including 1" to the horizontal foot. Has a smoother, more attractive surface—is highly resistant to compressive loads—quiet and dustless under traffic. Although relatively hard, it is resilient—comfortable under foot.

Available in black and red, in ½" thickness, and in sizes 12" x 12" and 12" x 24". Write for complete details—Address Department 21.

THE PHILIP CAREY COMPANY • Lockland, Cincinnati, Ohio

Dependable Products Since 1873

BRANCHES IN PRINCIPAL CITIES

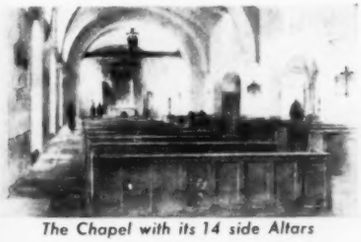
THIS, TOO *started with a pencil*

Original sketch for Cardinal Hayes Memorial

The CARDINAL HAYES MEMORIAL

designed by Eggers and Higgins

Final rendering showing remarkable fidelity to original



The Chapel with its 14 side Altars

Corner of Garden Entrance

Here is one of the outstanding buildings of the year—a complete High School, Faculty Residence Quarters, Chapels, a Cafeteria and Gymnasiums —all in one great building reared to the memory of Cardinal Hayes.

You can well imagine the intricacy of such a project—the sketches, renderings, blue prints—the long hours of many men spent with no tools but their skill plus paper and pencils. That's when pencils count. That's when Venus pencils stand out. Their careful gradation of 17 degrees gives the draftsman and architect the exact degree of hardness or softness for each job, from 6B to 9H, plus 3 special Venus Tracing degrees T1, T2, T3, for making direct blueprint reproductions (without ink tracing). It is this precision of gradation plus the smoothness and strength of lead provided by the exclusive *Colloidal Process, that have made Venus the most famous and largest selling professional pencil in the world. May we send you samples? Just say the word—and the degree. Address Dept. B. * *U. S. Pat. No. 1,738,888*

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SMALL-HOUSE CLUB OFFERS ARCHITECTS NEW OPPORTUNITY

Community construction scheme may restore important share of ready-built house design

THE SMALL-HOUSE club—a new scheme of community house construction—may alter the speculative builder into a contract builder; vastly improve the appearance and sensibility of American home communities; and restore to the architect, alive to its possibilities, an important share of ready-built house design.

Now swinging into a nascent popularity in the Northeast, the house club plan is not new-fangled. It has been tried before; but its topical interest arises from the Great Truth that too much of the house architect's business has been slipping through his fingers into the ready hands of businessman-builders. Based on a mass-production plan, aesthetically squired, the small-house club offers reinstatement to the architect. It appears that he is, after all, best qualified to endow the mass-produced nonentity with individuality.

The nub of the idea is a pretty picture. This is it: Starting with a piece of platted land, the architect designs an individual house—or variations of several basic plans—for each specific lot. These are so arranged that the entire development has a continuity of form and color rarely obtained in the individually-built community; rarely achieved in the speculative-built development.

Because he designs the entire development at one time, he has the unequalled opportunity to work out problems of orientation, circulation, aesthetic harmony, and contrast of form and color. He may project cost economies: by means of module units; use of standardized units sizes; by means of quantity purchases.

Upon completion of the design, the projected community must be fully pictured. Renderings of individual houses, of the entire group, of individual blocks must be prepared for submission to the public. These are not professionally "arty," but rather realistically accurate. The exact technique should vary with the cost range of the houses. More expensive units require more conservative coloring; less expensive should employ brighter colors, according to recommendations of architectural color experts.

After approval by the FHA and local building department, an advertisement is placed in the newspapers. This is usually brief, asking all those who are interested in owning their own homes—and who are willing and able to pay the required monthly payments—to write in for further particulars.

In several instances, this simple announcement has been met with a flood of inquiries. The advertisement, however, may take any desired form and elaborateness.

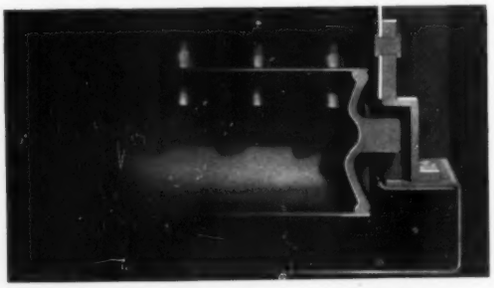
Inquirers are next approached by salesmen, armed with the renderings of the development, who outline its virtues. All houses, they instruct, must be sold from the plans before construction will proceed. This permits reducing the cost of the houses to a minimum. Promoters of the scheme believe mass graduated production permits savings of as much as 20%. This saving is passed on to the buyers. The purchaser may buy any house he desires but must also take the lot on which the house stands. This

(*Continued on page 108*)

X-Ray Report on Fedders Type K HEATING COILS

Strong, rigid casings . . . large cylindrical headers . . . full floating protection against overall expansion . . . scale breaker-tube orifices. . . tube supports . . . permanently bonded fins and tubes are Fedders engineering features that have won the respect of many prominent architects, engineers, and heating contractors who appreciate good, sound design.

To answer any of your questions on Fedders new design features, write for fully illustrated Catalog AC-601 for complete explanation.

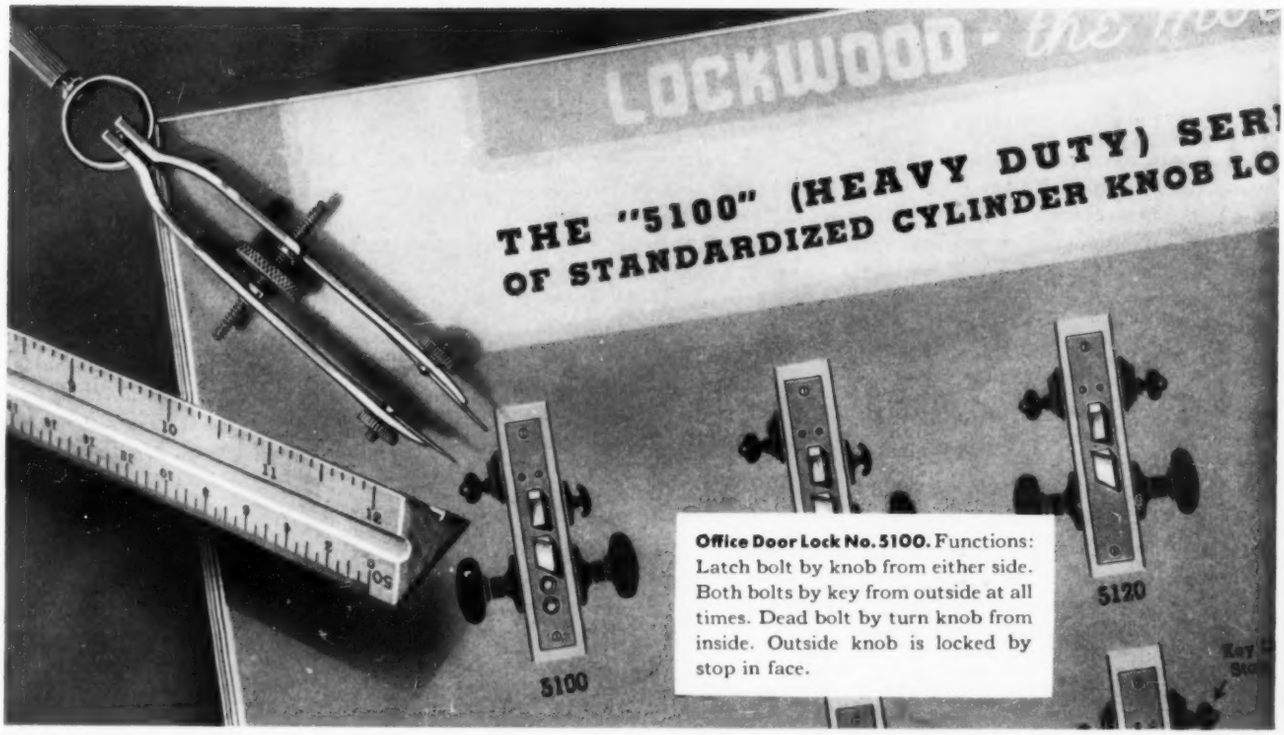


Showing how Fedders Full-Floating Mounting Assemblies insure complete overall protection against thermal expansion, contraction and pipe connection strains.

Fedders Scale Breaker-Tube Orifices provide uniform flow of steam by metering steam and preventing scale from lodging at opening of orifices.

FEDDERS MANUFACTURING COMPANY, INC.
Air Conditioning Division
93 Tonawanda Street Buffalo, N. Y.

Complete Line of Unit Heaters . . . Heating Coils . . . Unit Air Conditioners . . . Cooling Coils . . . Unit Coolers . . . and Associated Products.

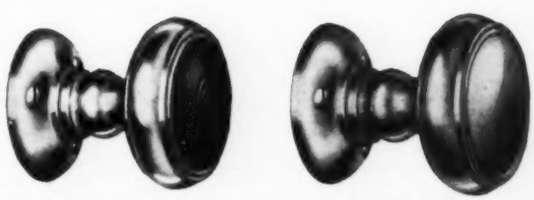

LOCKWOOD
THE "5100" (HEAVY DUTY) SER
OF STANDARDIZED CYLINDER KNOB LO
5100
5120
Office Door Lock No. 5100. Functions: Latch bolt by knob from either side. Both bolts by key from outside at all times. Dead bolt by turn knob from inside. Outside knob is locked by stop in face.

Let's Measure Up Office Door Locks!

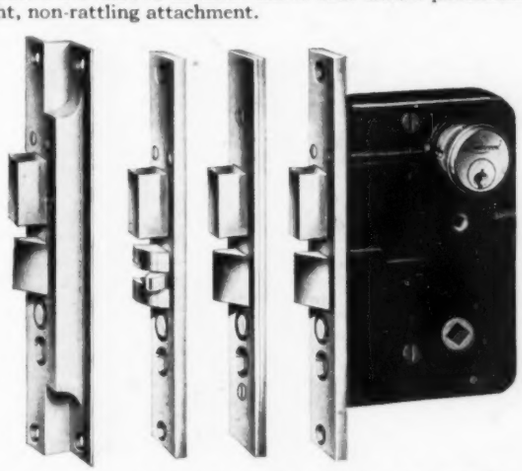
For Office doors, we offer you No. 5100 in the Lockwood Modernized Line of Cylinder Locks. This lock is equipped with the famous Lockwood Equipoise Knob action — balanced for easy operation in either direction, and overcoming the annoyance of "one-way" knobs — an especially valuable feature for Office doors.

This lock is built with Lockwood precision and ruggedness, to operate smoothly and dependably under constant service. It is suited to wood or metal doors, and like all locks in this line, conforms to the standard dimensions adopted by the Hollow Metal Mfrs. Association. It is thus interchangeable in the same mortise with any other lock in its series.

The New Lockwood Catalog shows more than 300 different Cylinder Mortise Locks in an easy-to-read panorama style. We would like to send you a copy. It will save hours of your time in writing lock specifications. Send today for your copy and for full information.



The readily interchangeable tops of Polyflex Forged Brass Knobs assist you in matching various architectural patterns. Dardelet Set Screws in these knobs also assure permanently tight, non-rattling attachment.



Plain cast front, plain latch bolt regularly furnished. Rabbeted front, anti-friction latch bolt, armored front—all are available when so ordered.

LOCKWOOD
N

Lockwood Hardware Mfg. Co.

Division of Independent Lock Co. Fitchburg, Massachusetts

THE SMALL HOUSE CLUB

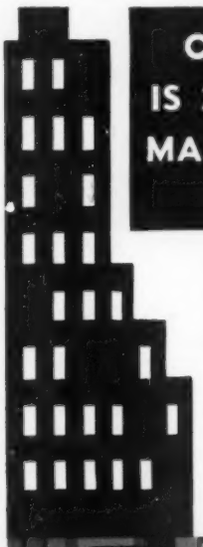
(Continued from page 106)

preserves the unity of the development and simplifies selling.

Various methods of securing the interest of the potential buyer have been tried. One of these requires a down-payment of approximately 1% of the cost of the house merely to hold it. While the buyer is exercising this option, the house cannot be sold to any other purchaser.

When all houses have been sold, down payments of 10% are required of each buyer. Construction of the entire tract then proceeds, usually under one lump contract.

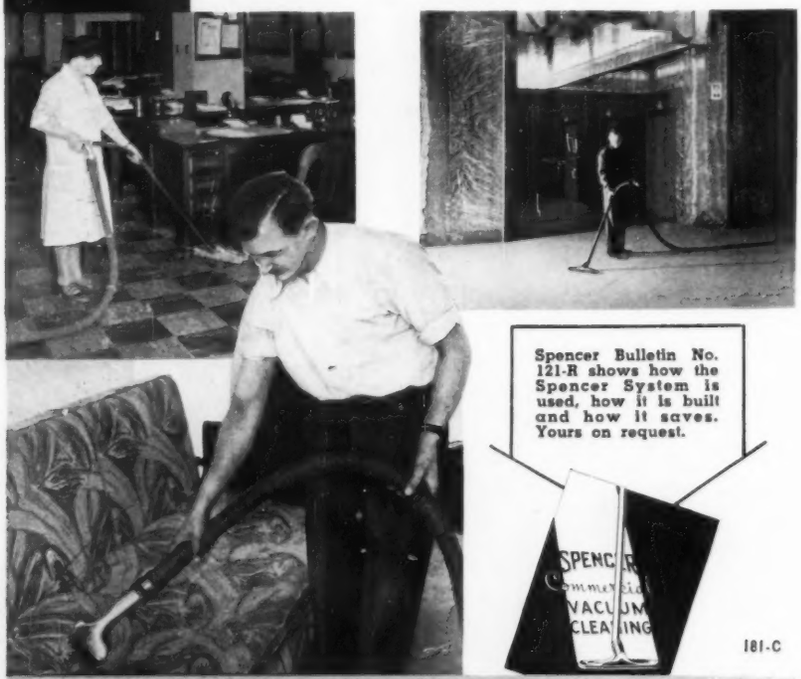
The field, however, is not the natural monopoly of the titanic building-materials dealer. It may also be cultivated by progressive architects, working hand in hand with property owners. Because each house is sold before construction starts, working capital is reduced to the minimum. In addition, because all construction proceeds at one time, it is possible to contract the entire construction at once. —J. R. Von Sternberg



CLEANING IS 20% of the MAINTENANCE COST

That's the average according to the experience of building owners and yet in this same group there are owners who report savings of 25% to 40% of their cleaning costs with a Spencer Central Vacuum Cleaning System. In fact, in some cases more than half the cost of the system has been saved the first year.

Direct financial saving, however, is not the only reason why Spencer has been specified by leading architects. Better cleaning because of the extremely powerful vacuum and special vacuum tools, the use of less wax and less mopping time, cleaning of boiler tubes and ventilating screens are other advantages well known among leaders in the building field.



Spencer Bulletin No. 121-R shows how the Spencer System is used, how it is built and how it saves. Yours on request.

181-C

SPENCER HARTFORD CENTRAL AND PORTABLE VACUUM CLEANING SYSTEMS

THE SPENCER TURBINE COMPANY, HARTFORD, CONN.

(Continued from page 98)

Plastic Sheet for Direct Lights

A NEW SHEET PLASTIC eliminates the need for louvers on exposed lighting fixtures. The plastic sheet, designed to be placed over the light-fixture opening, consists of very thin parallel translucent louvers, or "slats," either white or colored, running through the depth of a clear, transparent sheet at right angles to the surface. The new material combines in large measure, it is claimed, the diffusion obtainable with an opal material with the directional efficiency obtainable with a clear material. It is primarily designed for fluorescent lighting, which with its continuous light source, frequently requires louvers to eliminate glare and to control direction. The new material, when seen from the side, appears translucent and the color of the slatted striping. When viewed from directly in front, it appears transparent with translucent hair lines running through it. A variation of the sheet has a prismatic surface, designed to obscure the interior of the fixture when viewed from any angle, and to diffuse the light. Colored striping has many special uses. The use of pink translucent stripes, for example, overcomes the unflattering and off-tint appearance given by fluorescent lighting to objects of reddish and brownish hues. *Louverglas*, Doane Products Corporation, Meriden, Conn.

New Paint Hides Mistakes

A MANY-PURPOSE synthetic aluminum-casein paint serves as an economical primer and sealer for plaster, plasterboard, wallboard, cement, concrete, brick, wood, and other porous surfaces. It successfully hides dark coats, prevents bleeding of stains through superimposed coatings, hides feather-edged plaster patches, acts as an anti-bleeder for bituminous undercoatings, may be used as a finish coat wherever a high reflecting aluminum finish is desired. It may be applied over any firm painted surface: oil, paint, washable water paint, varnish glaze, or enamel. Any paint surface may, in turn, be applied over it. Odorless, it dries in 30 minutes on unpainted surfaces; in 3 hours on painted surfaces. *Brytenall Alumi-Bond*, Brytenall Co., Ossining, N. Y.

BEHIND THE RECORD

OUR LAST MONTH'S letter department—though more of a resumption than an innovation, it is true—was still attended in our mind with something of the diffidence that becomes all first introductions. This month's basket, however, extends a cordial recognition which not only vastly bolsters our poise, but offers so much in the way of forthright expression that we are all steamed up to carry on—in the hope, of course, of stimulating much more correspondence like the following:

"The June issue was interesting to me for the comments. I note the complaint of the young man who rather resents that the Beaux-Arts does not include construction and looks for it in magazines. The practical side of a good magazine is the place to get profitable data, but it cannot be a school book. However, the Beaux-Arts does teach good plan. A B-A man who has left behind him one of the best monumental buildings N. Y. C. erected rather rejoiced in leaving the construction details to 'those damn engineers.'

"The good plan angle is what raises in my mind a criticism of the Bankers Life building over which you enthuse. That is isolating women's toilets to a shut-off stair hall. That is a practice long ago condemned and rejected for commercial buildings as dangerous. On public halls yes, but isolated stair halls, no. Then to add to this putting both the men and women's toilets contiguous is enough to make any personnel manager tear his or her hair out.

"Again, on page 71, I think the location of breakfast room is bad plan for a house of that character. It would be good plan for a house where the mother supervises the family, but in a more pretentious residence, not so good.

"We had in this office a young man, now a registered architect, who came pretty much a greenhorn and pursued his studies at NYU extension night courses. Today he is a good man for anybody's office, but I believe he learned to plan through criticism rather than through attempting to develop his own brain child. In our files we have any number of magazines showing plans both new and modernized, marked with his criticisms of the bad features shown.

"For the benefit of young men of the type before mentioned it might be a good thing if there was an available list of practical works on construction. In this regard I was fortunate; my first employer had books he brought with him from Cornell which included excellent works on supervision as well as structural design. Recently Wylie has published a book entitled 'Simplified Engineering for Architects and Builders,' by Parker; that is the best thing since Prof. Appel and another produced a like book about 25 years ago—all the common structural problems that the average draftsman meets in an office where no structural man is employed, and in simple English.

"If such a list were available to young men they might be able to obtain same from the public libraries, without the necessity of purchase.

"Thanks for such heart to heart discussion as Behind the Record gives."

An excerpt from another reader's letter may level a finger along the line of public relations at something to be looked into:

"It is unfortunate that so few houses enjoying benefit of architect are open to the public, because I am convinced that public taste is developed to quite an extent by these so-called 'model' houses that are designed and built by contractors only."

Finally, because the RECORD, unfortunately, is not in a position to extend much in the way of material help, we publish a request from Mr. Earl A. Kirchner, Industrial Arts Instructor, Borough of Springdale, Pa.:

"I have just started a course in architectural drawing in our school. To give my boys an idea of how a house plan is drawn and to explain all the details of a plan, it would be to their advantage if I had a few plans for them to study.

"I would like to know if you have any old plans of bungalows, two-story, or duplex homes that are no longer in demand, or any books, catalogues, etc., that would be helpful to my students."

Perhaps some readers will be able to lend a hand on this.

Without Comment

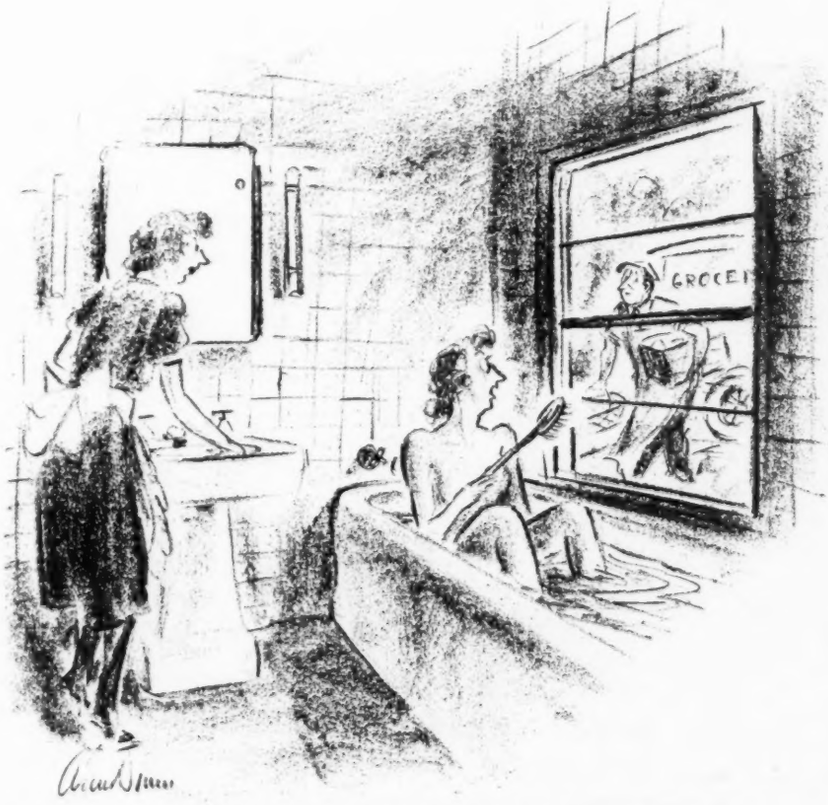
FROM A RECENT Federal Works Agency news release:

"The Federal Government is facing a serious shortage of administrative office space in Washington due to the demands of the agencies now expanding under the defense program. . . .

"At the present time the Government is occupying approximately 16,400,000 square feet net space in 125 federally-owned office, storage, garage, shop, and laboratory buildings, and about 4,300,000 square feet net space in 165 leased buildings, either in whole or in part."

In a release from the News Bureau of the Society of Residential Appraisers, Malcolm Shermer, Atlantic City appraiser, writing on the relation of bonded civic debt to investment in, and marketability of property, says:

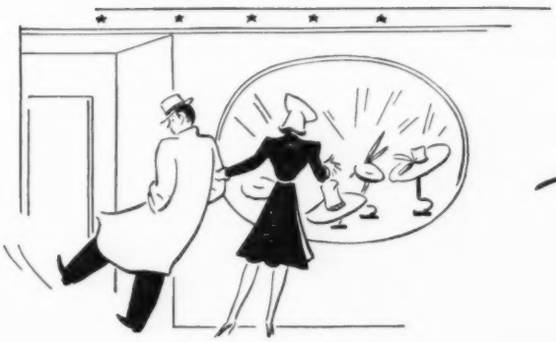
"If, for example, the city's bonded debt is one-third of the total assessed and taxable real estate in the city, a man buying a house with a market value of $3,000, assessed by the city at $3,000, is actually assuming a portion of the city's debt equal to one-third of that property's value, i.e. $1.000, for that much of his property is security for the bonded debt. If a purchaser buys the property for $3,000, paying $2,000 cash and assuming a $1,000 mortgage, what has the property cost him? There is but one answer, namely, $4,000; $2,000 cash, $1,000 bonded debt assumed by him when he purchased, and a $1,000 mortgage assumed at the time of purchase. He has, therefore, paid $2,000 for a $1,000 worth of equity."



I must say, Marie, I'm bitterly disappointed in the fenestration!

—Drawn for the RECORD by Alan Dunn

DRISO
A



Don't bedevil the little lady, mister! . . Just around the corner, some smart merchant's all set to catch *your* eye

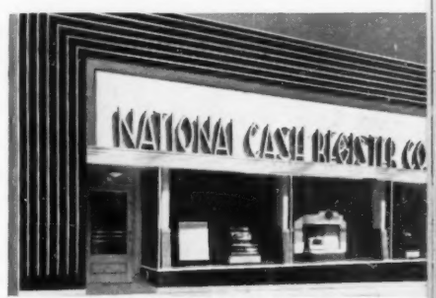
AN ATTRACTIVE store front is the first step in the merchandiser's best-foot-forward. It halts the casual glance. Gives goods on display a chance to pull the prospect inside. Business picks up. Profits rise.

Aluminum adds outstanding beauty to the store front. It is available in all forms and can be fabricated and finished to suit the fancy of the designer. Many lasting surface finishes are possible with Aluminum. It blends well with other materials. Numberless pleasing effects are obtained.

Aluminum retains its original fine appearance with but little attention. It is highly resistant to corrosion. Maintenance costs are low.

Manufacturers of store fronts carry a wide variety of attractive designs in stock. They produce fronts which are distinctive, but meeting each individual's exact requirements. You can get valuable advice from these manufacturers on this means of boosting your clients' income.

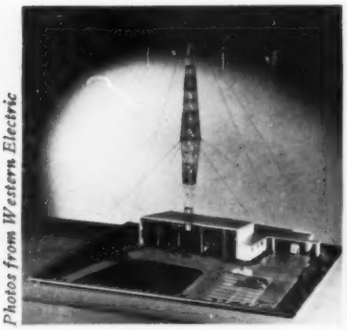
Aluminum Company of America, 2167 Gulf Bldg., Pittsburgh, Pa.



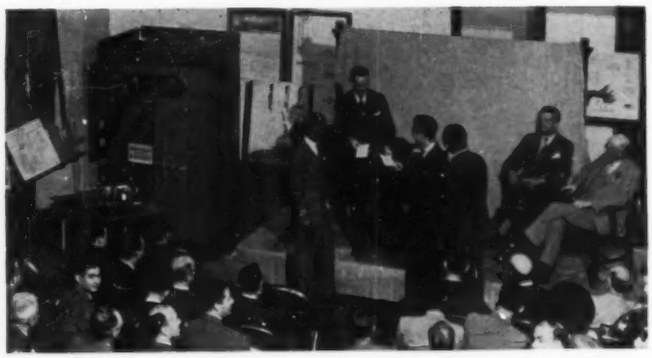
ALCOA ALUMINUM

ALCOA ALUMINUM

Reg. U.S. Pat. Off.



Photos from Western Electric



Top, left: winning design in broadcasting station competition sponsored by Western Electric. Top, right: Judges (l. to r.) Fellheimer, Poppele, Fouilhoux, Walker, Kahn. Left: presentation of awards; 1-KW transmitter involved in problem is shown in left background.

Beaux-Arts Names Winners in Broadcasting-Station Competition

IN PURSUANCE of the ideal that radio broadcasting stations should appeal to the public eye as well as ear, the Beaux-Arts Institute of Design, New York City, recently announced the winners in its first competition for the design of a building to house a radio transmitter and its auxiliary equipment. The problem called specifically for a 1000-watt transmitter station, with a plot area not exceeding 300,000 sq. ft.

Winner of first prize—$250—was *Louis Shulman*, who enrolled from New York University; Mr. Shulman acknowledges the assistance of *J. R. Seltz* in the preparation of his design. *Roger W. Flood*, who also enrolled from N.Y.U., received the second prize of $100. *Percy C. Ifill*, N.Y.U., was third and was awarded $50. Both Mr. Flood and Mr. Ifill are Negroes.

The competition, which attracted 91 entries from 102 individuals representing 19 schools and universities, was sponsored by the Western Electric Co. It sought, according to officials, "to achieve a perfect wedding of radio broadcasting equipment and the building which houses it."

Designs were selected for award by the following jurors: *Ralph Walker, Ely Jacques Kahn, Alfred Fellheimer, J. André Fouilhoux*—all architects, and *J. R. Poppele*, chief engineer of station WOR. Speaking for the jury, as its technical representative, Mr. Poppele said: "The work of judging . . . the competition proved one of the most stimulating and interesting assignments I have ever had . . . Unique and practical ideas have been evolved by the contestants . . . For an over-all appraisal of the competition, the results show much of worth to the industry."

Another juror commented: "The desired dramatic ensemble sought for by the program is obviously best obtained by a close grouping of the relatively small building structure with the tower, well illustrated in the first-prize design."

In commenting on the broadcasting-station situation in general, and indicating, thereby, one of the main reasons for sponsoring the competition, an official of the Western Electric Co. remarked that the radio industry has shown heretofore "a greater advance in transmitting equipment than in the buildings to house it."

FAECT Holds Fifth Convention

GATHERING IN New York City, May 31-June 2, 150 regular and fraternal delegates attended the Fifth Convention of the International Federation of Architects, Engineers, Chemists and Technicians, CIO affiliate.

Convention highlights, over and above routine business sessions, included a symposium on "Labor and Technological Unemployment," panels on various aspects of technical employment and union organization, and the presentation of an award, in connection with a luncheon given in his honor, to *Dr. George Washington Carver*, Negro scientist of Tuskegee Institute.

Various resolutions were introduced and adopted by the Convention, chief among which was "that the FAECT support all efforts to prevent our involvement in the European War . . . that we deem it an important and integral part of the defense of the nation that adequate funds also be supplied for WPA, PWA, Housing, Public Health, and other social measures."

Principal elections were: International President, *Lewis Alan Berne;* Secretary-Treasurer, *James A. Gaynor;* Vice-president in Charge of Organization, *Marcel Scherer*.

Phillips Wins Tacoma Federal Building Competition

$3,000 GOES TO *Truman E. Phillips*, Portland, Oreg., as author of the winning design for a new $300,000 federal office building to be erected at Tacoma, Wash. Later, as consultant in the preparation of working drawings and specifications, he will receive $3,000 more.

Whitehouse and Church, Portland; *Ashton and Evans*, Salt Lake City; and

(Continued on page 12)

CALENDAR OF EVENTS

- **July 1-August 10**—Summer School Courses in Architecture, Landscape Architecture, and History of Architecture, Harvard University Graduate School of Design and Smith College Graduate School of Architecture and Landscape Architecture. Harvard University, Cambridge, Mass.
- **July 8**—Registration, Summer Classes, New York School of Fine & Applied Art, 136 E. 57th St., New York City.
- **July 10-13**—Convention, Alpha Alpha Gamma, national fraternity of women architects. Beekman Tower Hotel, New York City.
- **September 26-28**—Convention of New York State Association of Architects, Rochester, N. Y.

a Note to Architects

THE BIGGEST NEWS IN PLANNING IS FLUORESCENT LIGHTING

THE ARCHITECT LOOKS AT FLUORESCENT LIGHTING

Fluorescent Lighting permits the Architect to specify a new system of illumination that not only combines Beauty with Utility . . . but creates illumination values heretofore economically impractical with conventional lighting.

For instance, even in those locations wherein continuous duct lighting is desirable, Open End Luminaires, mounted end-to-end, may be assembled in lengths as needed to light long assembly or production lines. There is an interesting variety of fixtures for individual mounting arrangements.

In the strictly decorative field Fluorescent lamps and Westinghouse current limiting auxiliaries permit free rein in color schemes at inexpensive installation costs. In fact, there is a Westinghouse product available in a wide variety of sizes to suit practically every commercial and industrial Fluorescent Lighting need. A complete 32-page technical Guide To Fluorescent Lighting—B-2235—is yours for the asking.

A NEW KIND OF LIGHTING

IN ONE SHORT YEAR there has been a virtual revolution in Commercial and Industrial lighting . . . in many instances a complete overthrow of accepted standards in lighting effectiveness.

Today all eyes . . . the eyes of management, of executives, of operating personnel and of Architects . . . are focused on Fluorescent Lighting. Westinghouse Fluorescent Luminaires give twice as much light . . . without glare or shadow, and are 50% cooler . . . permitting closer placement to light-demanding tasks.

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Westinghouse now makes it easier for the architect to specify the finest Fluorescent Lighting available. A complete line of Fluorescent equipment, all bearing the familiar Westinghouse trademark, is available through 117 Westinghouse Electric Supply Company offices or Independent Westinghouse Lighting Distributors. Westinghouse Electric & Manufacturing Company, Lighting Division, Edgewater Park, Cleveland, Ohio.

Westinghouse

FLUORESCENT LIGHTING

IT'S MODERN COMFORT IF IT'S AIR CONDITIONED

JOHNSON CONTROL
pays its own way

Neil House, Columbus, Ohio, a DeWitt hotel. Frazier & Raftery, Inc., architects for alterations, Chicago.

Air conditioning equipment, furnished by the Vilter Manufacturing Company, Milwaukee, Wisconsin.

There is a new conception of comfort in those places where the public wines and dines and where modern hospitality and service are extended in other ways. That is why Johnson Control is at work as the "Brain of the Air Conditioning System" in the dining rooms, men's bar, lobby, and barber shop at the Neil House. Johnson's distinctive Modulating Attachments for freon valves and truly g-r-a-d-u-a-l Johnson Mixing Dampers are operated by thermostats in each conditioned room . . . Correct conditions, essential to patrons' comfort, depend on accurate automatic control, skillfully designed and properly applied. Consult a Johnson engineer regarding temperature control problems in connection with every type of heating, cooling, ventilating, air conditioning, and industrial processing system.

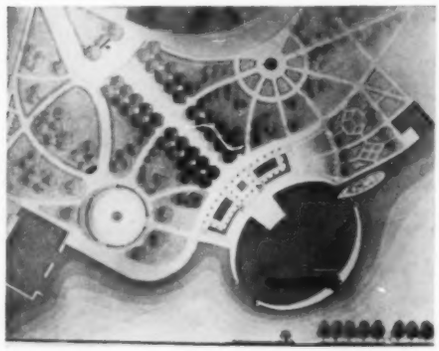
JOHNSON
Automatic TEMPERATURE AND AIR CONDITIONING *Control*
JOHNSON SERVICE COMPANY, MILWAUKEE, WIS. AND BRANCHES IN PRINCIPAL CITIES

WITH RECORD READERS

(Continued from page 10)

Paul G. Carlson, Seattle, were awarded honorable mentions. The competition, sixth in the series sponsored by the U. S. Public Buildings Administration, drew 67 entries from architects in region No. 10 — Colorado, Idaho, Montana, Oregon, Utah, Washington, Wyoming.

Judging the designs were *Roland E. Coate*, Los Angeles; *Henry F. Hoit*, Kansas City; *Alfred Shaw*, Chicago. They commented: "The winning design represents a simple, dignified building which expresses the use to which it is to be put, and seems to require the least modification. The plan is direct, giving good circulation, good light, and the bay treatment permits flexibility."



Breed Gets LeBrun Scholarship

AUTHOR OF THE SCHEME pictured above, *James W. Breed*, Richmond, Va., has been adjudged, on the basis of it, winner in the LeBrun Scholarship competition, conducted recently by the New York Chapter AIA. His award of $1,400 will go for six months of travel and study of architecture in a country to be designated later by the jury.

Mr. Breed is 20 years old, a University of Pennsylvania architectural graduate, and since 1935 has been chief designer in the office of *Baskervill and Son*, Richmond architects.

His scheme calls for demolishing old piers adjoining New York's Battery Park, razing of the elevated railway structures on Broadway, and the widening and prolongation of that street to the water's edge. To the east of the Aquarium is planned a colonnaded pavilion for receiving distinguished visitors to the United States. A 200-ft. monument to the spirit of democracy rises from the breakwater just off shore.

The jury cited Mr. Breed for retaining the spirit and character of the old park and for keeping the Aquarium.

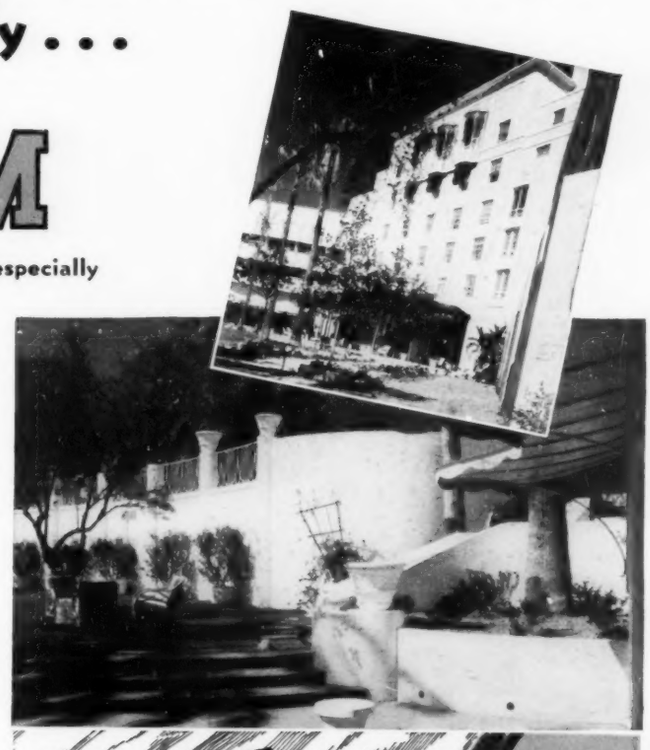
(Continued on page 14)

★ The beautiful new Arrowhead Springs Hotel in San Bernardino, Calif. All exposed concrete was poured against Plyform *and not plastered over!* Close-ups below show the smooth, flawless surfaces.

You get smooth concrete surfaces at lower cost when you specify . . .

PLYFORM

The only grade of Douglas Fir Plywood made especially for concrete form work



• Plyform is the only grade of Douglas Fir Plywood made especially for concrete form work. Constructed with special care from special veneers and special glues . . . oil-treated and edge-sealed at the mill . . . Plyform is a quality product that not only forms smoother concrete but also gives numerous re-uses when handled with reasonable care.

Plyform is easily distinguished from Plypanel or other grades of Douglas Fir Plywood by the diamond-shaped "grade trade-mark" and the silver-green edge seal on every panel. In most areas Plyform costs just over 1c a square foot more than Sound 2 Sides Plypanel of the same size and thickness . . . but is worth more because of its dependable, economical performance.

For more information, consult Sweet's Catalog or write for free Concrete Form Booklet. Douglas Fir Plywood Association, Tacoma Building, Tacoma, Washington.

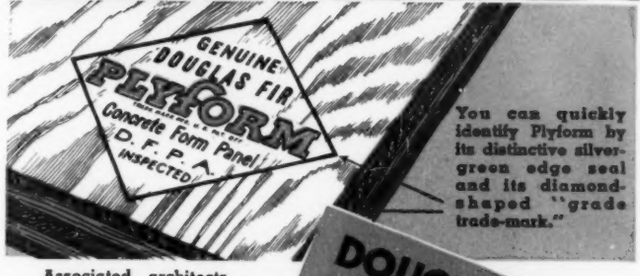
Here's why Plyform panels are better

1. Plyform is manufactured in strict accordance with U. S. Commercial Standard CS45-38, by Association Mills. Only special highly water-resistant premium glues are used. The cores of the panels are better than those used in standard interior types of Douglas Fir Plywood. The faces are similar in appearance to SO2S Plypanel but must be at least 1/8" thick before sanding.

2. Both sides of every Plyform panel are usable for forming smooth concrete surfaces. Plyform serves as sheathing and lining combined.

3. Every panel is sanded satin-smooth, oil-treated and edge-sealed at mill.

4. The distinctive silver-green edge seal and the diamond-shaped "grade trade-mark" stamped on every Plyform panel are positive, instant identifications of a genuine Plyform panel. Specify Plyform on your next job.



You can quickly identify Plyform by its distinctive silver-green edge seal and its diamond-shaped "grade trade-mark."

Associated architects on the Arrowhead Springs Hotel were Paul Williams and Gordon Kaufman. The builder: Wm. Simpson Construction Co.

DOUGLAS FIR PLYWOOD
Real Lumber
MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER

GENUINE DOUGLAS FIR PLYFORM Concrete Form Panel D. F. P. A. INSPECTED

GENUINE PLYWALL Douglas Fir Plywood WALLBOARD D. F. P. A. INSPECTED

SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"

PLYPANEL D.F.P.A.

EXT.-D.F.P.A.

GENUINE PLYSCORD SHEATHING D.F.P.A.

RIGHT TEMPERATURE IN EVERY ROOM FOR $100 LESS A MONTH

Steam Heating Economy Effected by Webster Moderator System in Hotel Harrisburger

LUXURY HEATING AT LOW COST

All Sections of Hotel Are Kept Comfortably Warm Regardless of Weather Conditions

STEADY, EVEN HEAT ASSURED

Harrisburg, Pa.—The cost of steam heating service in the Hotel Harrisburger has been reduced "at least $100 each month during the heating season and usually considerably more" as the result of a Webster Heating Modernization Program carried out in 1933.

Hotel Harrisburger, Harrisburg, Pa.

James A. Johnston, Manager of the Hotel Harrisburger, says:

"Since the installation of a Webster Moderator System, we have found that our steam heating bill is reduced by at least $100 each month during the heating season and usually considerably more. This is done without any loss in efficiency in heating the building and without discomfort to our guests."

The Hotel Harrisburger is a member of the American Hotels Corporation and is well known for its fine accommodations.

The steady, even heat provided by the Webster Moderator System keeps all sections of the Hotel comfortably warm.

In mild weather, the Webster Moderator System keeps radiators mildly warm and reduces annoying overheating. In subzero weather, adequate heat is provided in every section of the Hotel. The basic rate of steam delivery is adjusted automatically by a Webster Outdoor Thermostat with every change in weather conditions. A manual Variator allows the operator to take care of special conditions such as heating-up and reduced night heating.

The entire cost of the Webster Heating Modernization Program was recovered out of steam savings in six heating seasons.

Herre Brothers, of Harrisburg, acted as modernization heating contractors. There is a total of 13,000 square feet of installed direct radiation.

LOW HEATING COST

GET THIS BOOK . . . Read the fact stories about economy and comfort in the heating of 144 buildings. No exaggerated claims. No promises. Just 64 pages of heating results. Ask for "Performance Facts."

WARREN WEBSTER & CO., Camden, N. J.
Pioneers of the Vacuum System of Steam Heating
Representatives in 65 principal U. S. Cities—Est. 1888

WITH RECORD READERS

(Continued from page 12)

Jurors were: *Francis Keally*, Chairman, *William A. Delano, Otto R. Eggers, John T. Haneman, Wallace K. Harrison, Otto F. Langmann, John V. Van Pelt.*

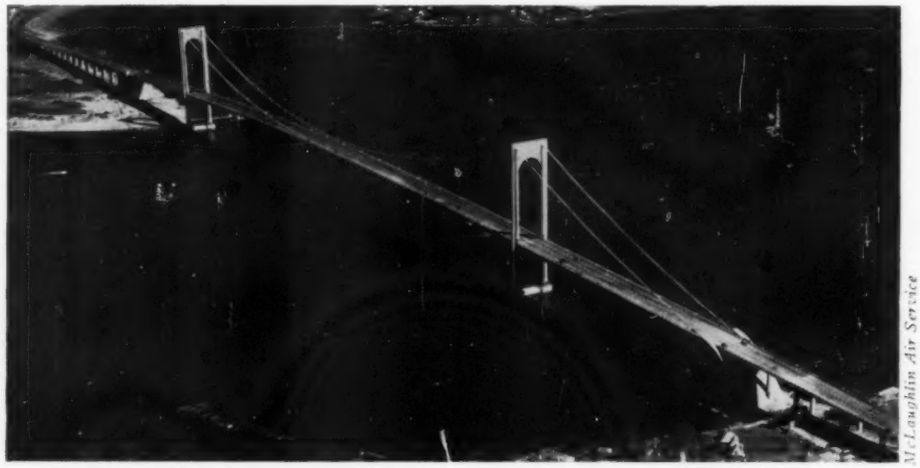
Honorable mention was conferred by the jury on *John L. R. Grand*, 30, assistant professor of architecture at the University of Florida.

Awards for Steel Bridges Announced by American Institute of Steel Construction

BELIEVING THAT steel bridges can be beautiful as well as efficient and economical, the American Institute of Steel Construction since 1928 has been presenting an annual group of awards for bridges demonstrating architectural excellence. Recently the Institute named the winners for last year.

All steel bridges completed and opened to traffic during 1939 were grouped in award classifications according to cost: Class A—over $1,000,000; B—$250,000-$1,000,000; C—less than $250,000. All movable bridges were judged under a fourth classification. This year no prize award was made for Class B, though two honorable mentions were conferred.

The judges were: *Prof. J. K. Finch*, Columbia University; *Louis E. Jallade*, and *Francis Keally*, both New York City architects; *Roger W. Sherman*, ARCHITECTURAL RECORD; and *Prof. Hale Sutherland*, Lehigh University.

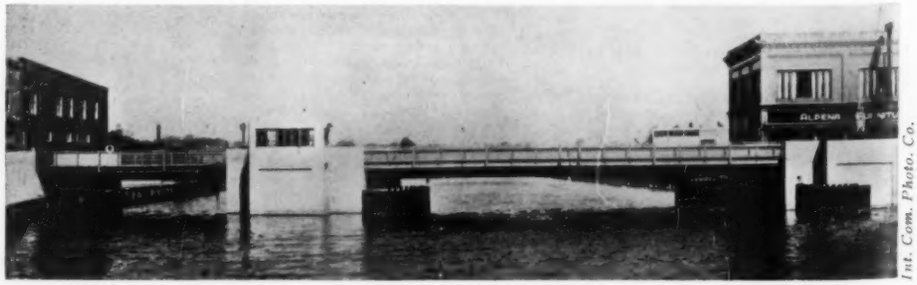


McLaughlin Air Service

CLASS A: Bronx-Whitestone, N. Y.; A. Embury, Arch.; Triborough Bridge Auth., Eng'rs.

Int. Com. Photo. Co.

CLASS C: Valley River Footbridge, Murphy, N. C. Tennessee Valley Authority, Eng'rs.



Int. Com. Photo. Co.

MOVABLE BRIDGES: Thunder Bay River, Alpena, Mich. Clifford E. Paine, Engineer

FLOORS FLEXIBLE TO THE ARCHITECT'S DESIGN . . . PRACTICAL FOR HIS CLIENTS!

Kindergarten interior, Netherwood School, Plainfield, N. J. Note distinctive Personal-ized floor of Nairn Linoleum.*

IN PLANNING beautiful, distinctive school floors the architect finds Nairn Linoleum "ready made" for his purposes. Extremely flexible, easy to work with, it fits any decorative scheme. Allows new and wider scope in designing interesting interiors.

At the same time, Nairn Linoleum furnishes the client with a practical floor that meets every school requirement. Beautiful and distinctive. Built for years of service. Easy to clean. Requires little maintenance. Footeasy and quietizing. Sanitary, because its satin-smooth surface is completely free from cracks that retain dirt.

Installed by Authorized Contractors, Nairn Linoleum carries a guaranty bond covering the full value of workmanship and materials. CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY.

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NAIRN
TRADEMARK REGISTERED
LINOLEUM
Floors and Walls

TEN VOTES: Mountain States Telephone and Telegraph Building. Robert C. Bryant, Architect; Ashton and Evans, Associate Architects.

EIGHT VOTES: Garden Park Ward Jesus Christ of the Latter Day Saints Chapel. Wooley and Evans were the architects for this project.

Photos by D. F. Davis

SEVEN VOTES: Montgomery Ward Department Store building. The architect was Robert Rowe; Ashton and Evans were associate architects.

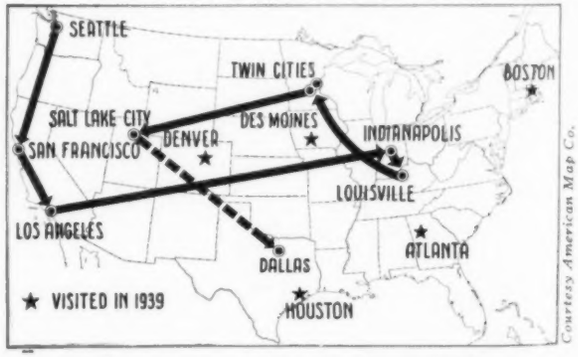
Mountain States Telephone and Telegraph Building Voted Outstanding by Salt Lake Citizens

WITH SALT LAKE CITY the Record Poll completes its first year's run—at which point the call for some sort of a statistical review becomes almost irresistible. Moreover, the choice by lay citizens of the Mountain States Tel and Tel building, as the outstanding example of recent architecture in the Salt Lake region, adds another to the group of public and semipublic buildings which, seemingly more than any other type, have come in for this distinction during the past months. All of which appears to strengthen our basis for attempting a classification next month of the buildings that have turned up as a result of these polls, and the drawing of a few general conclusions therefrom as to the nature of the public's critical attitude toward contemporary American architecture.

The following citizens submitted nominations for outstanding Salt Lake City buildings: *J. Mercer Anderson*, M.D.; *LeGrand P. Backman*, attorney; *Wallace F. Bennett*, manufacturer, Rotary Club president; *James E. Collins*, loan and trust executive; *Donald B. Goodall*, Art Center director; *J. A. Hale*, public-utilities executive; *Lafayette Hanchett*, public utilities executive; *W. D. Hammond*, State Road Commissioner; *Richard Harding*, real-estate board secretary; *Miss Maud R. Hardman*, school art supervisor; *Mrs. Alice Merrill Horne*, art-gallery director; *Mrs. E. O. Howard*, war-memorial chairman; *J. Grant Iverson*, attorney; *C. N. Jensen*, school superintendent; *Joseph S. Jones*, attorney; *William J. Lowe*, attorney; *Leslie Midgly*, editor; *David D. Moffat*, executive; *S. R. Nielson*, real-estate trust executive; *Thomas G. Pallister*, engineer; *Bishop LeGrand Richards*, presiding bishop J.C.L.D.S. Church; *Stephen L. Richards*, pastor; *Sterling W. Sill*, insurance executive; *Chas. D. Smith*, wholesale-drug executive; *Mrs. Agnes L. Stewart*, art director; *Dr. D. D. Stockman*, dentist; *Leland Swaner*, capitalist; *J. Frank Ward*, business man; *Clark Young*, M.D.

The following buildings received a number of nominations but less than the pictured winners:

(Continued on page 18)



Dallas, Tex., will be Record Poll's thirteenth objective.

The Shower Head *They'll Praise You for Specifying . . .*

Speakman ANYSTREAM *Self-Cleaning*

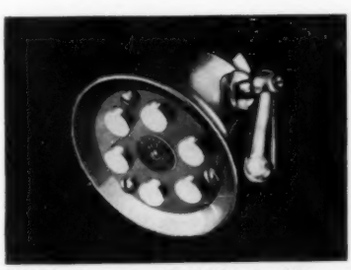
SHOWER HEADS

HERE'S why your clients will commend your selection of "ANYSTREAM" . . . It gives the bather any type of spray he wants . . . it can't clog up . . . it's self-cleaning in open position . . . it's economical in water consumption—and it's built to last a lifetime with ordinary care. There are no holes to get clogged up in "ANYSTREAM." Instead, there are tapered grooves in the plungers which assure full, unbroken sprays. The position of the plungers controls the type of shower you get.

Schools, colleges, hotels, apartments, clubs, etc., as well as modern homes, where performance, design and durability are essential, are the places where you will find the perfect use for Speakman Anystream Self-Cleaning Shower Heads.

We promise their users will sing your praises.

SPEAKMAN COMPANY • WILMINGTON, DELAWARE



S-2250—*Anystream Self-Cleaning Shower Head with Lever Handle Control (Patented) ½-inch I. P. S. Inlet, provides choice of spray to suit bather. Economical water consumption. Also obtainable with Lockshield Control (S-2255).*

S-2260—*Anystream Self-Cleaning Shower Head. ½-inch I. P. S. back Inlet. Vandal proof type. Fits flat against wall. Hexagon wrench for operation furnished with head. Also obtainable with side inlet for exposed installation (S-2265).*

ALL FROM THE SAME "ANYSTREAM" HEAD

A quarter turn of the lever handle gives a fine "Needle" spray.

A quarter turn further provides a "Normal" gentle spray.

A further turn to above position gives a "flood" spray, flushing out all sediment.

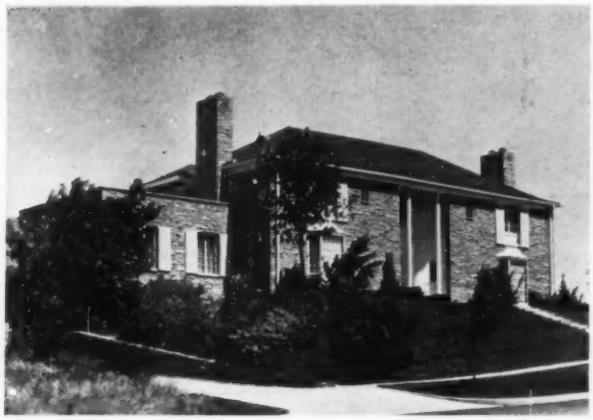
SINCE 1869

SPEAKMAN

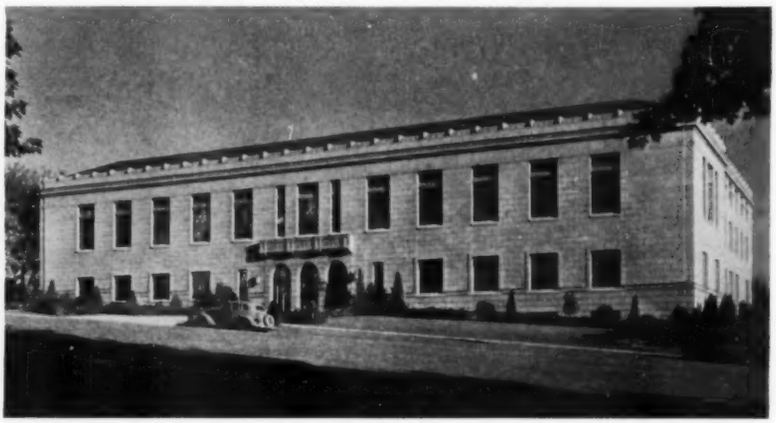
SHOWERS • SHOWER HEADS • BATH FIXTURES • SI-FLO (SILENT) FLUSH VALVES
LAVATORY FIXTURES • SINK FIXTURES • INSTITUTIONAL AND INDUSTRIAL FIXTURES

WITH RECORD READERS (Salt Lake City Poll, continued from page 16)

Board of Education Building (Edward O. Anderson, Architect); Carlson Hall, U. of Utah (Ashton & Evans); Wayne Decker residence (A. B. Paulson); J. L. Firmage residence (Wooley & Evans); Intermountain Clinic (Scott & Welch); L. D. S. Bishop's Storehouse (Fetzer & Fetzer); D. R. Packard residence (Dan A. Weggeland); Lowell E. Parrish residence (Lowell E. Parrish); Dr. Clifford J. Pearsall residence (R. Lloyd Snedaker); Petty Motor Co. (A. B. Paulson); Salt Lake Hardware bldg. (Ware & McClenahan); Horace Sorenson residence (A. B. Paulson); Stratford Ward L. D. S. Church (Lorenzo Young); Charles Tuttle residence (Slack W. Winburn); J. M. Wallace residence (Slack W. Winburn); Spencer Wright residence (Georgius Y. Cannon); Yalecrest Ward L. D. S. Church (Ashton & Evans).



SEVEN VOTES: Residence of Julian Bamberger, Federal Heights. Georgius Y. Cannon was the architect.



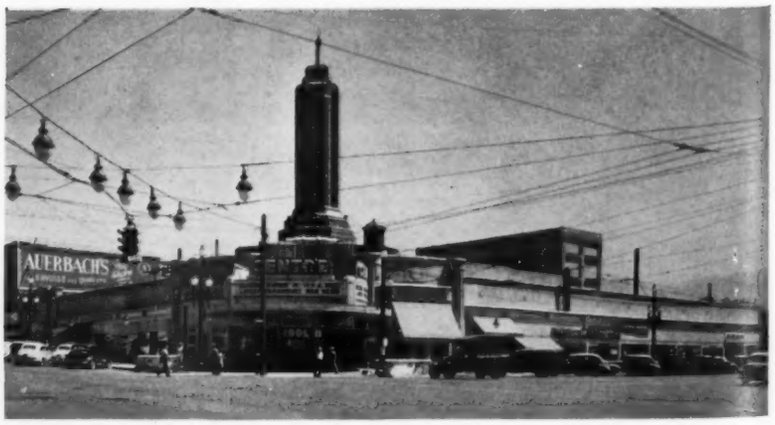
SEVEN VOTES: New Library on the campus of the University of Utah. The architects were Ashton and Evans.

SIX VOTES: New building of the F. W. Woolworth Co.; it was designed by Walter E. Ware, F. AIA.

FIVE VOTES: The United States Bureau of Mines Building for which the firm of Cannon and Mullen were architects.

Photos by D. F. Davis

FOUR VOTES: The Glade Candy Company factory. Slack W. Winburn was the architect.



FOUR VOTES: The Center Theater and Shopping Center. Walker and Eisen were the architects, with Ashton and Evans, associates.

BEHIND THE RECORD

THE STORY ABOUT dual-purpose rooms by Virginia Conner on pages 61-66 got into print as the compound result of: (a) our five-question survey (see AR, 5/40, pp. 76-79); (b) a conviction on our part that such a definitely whetted interest ought to have something tangible to feed on; and (c) a considerable amount of pro-and-conversation.

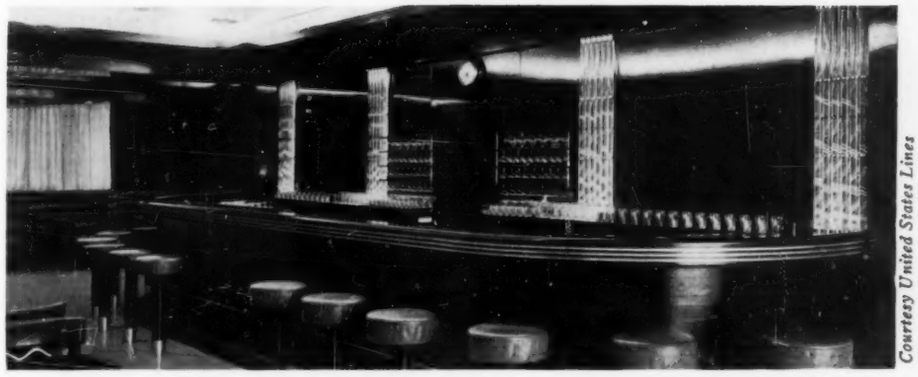
You may recall that in Question 3 of the May survey a majority of architects (62%) thought they could improve their economic status if they were to take on interior decorating on a fee basis; and that an even greater proportion (67%) said modestly in Question 4 that better interiors would generally result if they did so.

But if one very successful member of the interior decorating profession is any judge (and Virginia Conner, AID, should qualify on the basis of a busy 12-man office and a roster of commissions that require airplane jumps to service), architects have a lot to think about and a lot of tricks to learn. She thinks that today no one designer is big enough for all the phases of the building industry. The decorator, which she prefers to call "interior designer," is, she believes, no less a specialist in design than is the architect. They ought properly to collaborate, developing both exterior structure and interior decoration at the same time, to the benefit of all and the greater satisfaction of a mutual client.

* * *

MAYBE OUR COLONIAL ANCESTORS, insufficiently requited by that early example of a radiant heating device, the fireplace (which sent more heat by convection up the chimney than was radiated outwards into the room), initiated the pursuit of greater human comfort by way of the convectional principle. At any rate the subsequent history of American heating has had largely to do with systems—the stove, the hot-air furnace, the boiler and "radiator," and finally air conditioning—which for the most part depend on convection for the effecting of more equitable thermal environments. In other words, concentration has been chiefly on the control of *air* temperatures, with relatively little attention paid to the temperatures of surrounding *surfaces*.

But even air conditioning, and present methods of treating the *air* alone, though they represent tremendous advances over the past, still exhibit deficiencies in some important respects. It is not surprising, therefore, that recent developments in the fields of engineering and physiology are serving to focus increasing attention on new methods of heating and cooling by "radiant" or "panel" means, and that this month the RECORD looks into the subject for readers on pages 67-73.



Courtesy United States Lines

In July, the RECORD's story on Plastics (pp. 65–76) mentioned the edge-lighting qualities possessed by certain of these materials. This month offers an illustration of their being put to use in the new S.S. America cocktail lounge (above), where light from a concealed source escapes through the carved-line design of the DuPont "Lucite" (methyl methacrylate) columns decorating the back wall of the bar. The winding, wrap-around design is by Smyth, Urquhart, and Markwald, Decorators.

* * *

FROM OVERSEAS, or more precisely—in the vernacular of travel—"down under," comes a letter whose concern with essential matters unmartial provides a heartening contrast to the usual war-dog chivied communications posted hereward from abroad. Harry L. Hemingway, 2 Cole St., Elwood, Melbourne, Australia, writes to us:

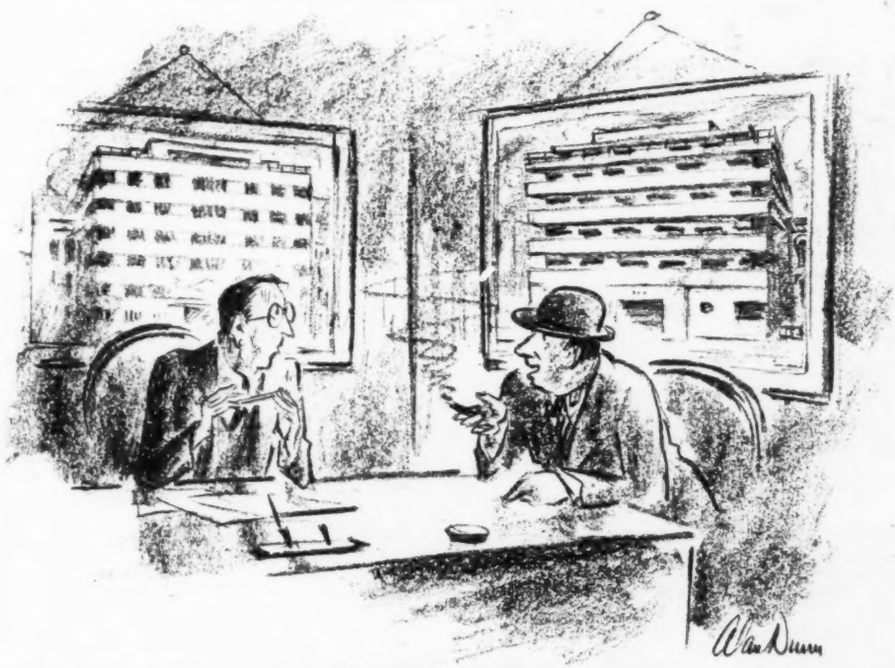
"I am a student of Architecture here in Melbourne, 18 years of age, and very keen to correspond with one of your readers about my own age. I am very keen on Corbusier's work and that of Norman Bel Geddes. All modern Architecture interests me in the extreme.

If you could get me a correspondent interested in these subjects I would be exceedingly grateful.

I am on your subscription list and look forward eagerly each month to the arrival in Australia of your magazine.

Thanking you in anticipation and looking forward to more issues of your splendid monthly. I remain, etc.'

Other readers, we feel sure, will want to act on this invitation to correspond.

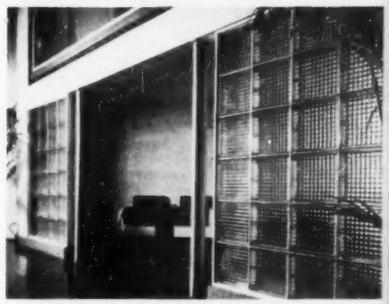


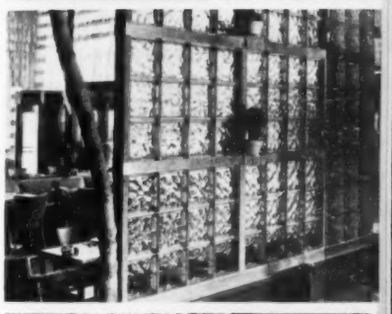
"I want you to design and build me some old-law tenements; I think I can sell them to the slum-clearance commission at a profit."

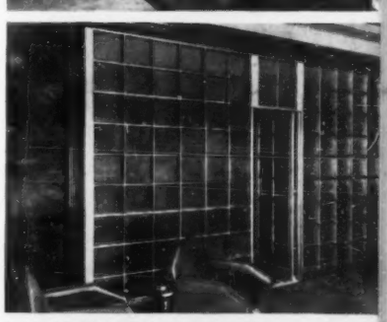
—Drawn for the RECORD by Alan Dunn

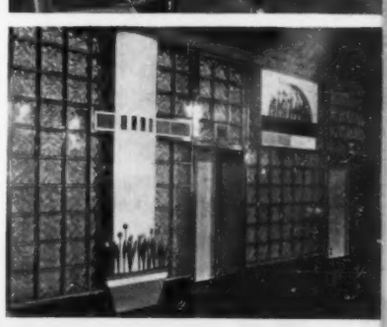
"No fooling!...

These glass block partitions go up faster'n they can make vice presidents"









YOU'RE DUE for a surprise if you haven't already prescribed your first partition of metal-locked glass blocks; it goes up so quickly and easily: It is strong and rigid, giving a feeling of permanence, yet it can be taken down and erected in a new location, with 100% of the materials salvaged.

The architect has been quick to recognize the decorative possibilities of glass block for interior work. Now he can allow free rein to his imagination, knowing that what's outmoded tomorrow can easily be changed to meet new requirements, and at low cost.

Extruded Aluminum shapes, used for the metal members in this construction, hold every course of blocks in uniform alignment. And Aluminum, with its subdued beauty and neutral color, fits in well with the sparkling beauty of the glass blocks. The smooth surfaces of blocks and metal are trim and neat in appearance, and are easily cleaned. Aluminum offers endless decorative possibilities, here and elsewhere, architecturally.

You can get complete data on metal-locked glass block construction from Owens-Illinois Glass Company, Pittsburgh Corning Corporation, Pittsburgh Plate Glass Company, and Revere Copper & Brass, Inc. Or write Aluminum Company of America, 2167 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

According to a recent judgment by the Jury of Architectural Awards of the Baltimore Association of Commerce, the new Coca-Cola plant pictured above is the outstanding factory structure completed in that city during 1939. The building, designed by Jesse M. Shelton of Atlanta, Ga., was premiated on the bases of exterior design, practical and artistic utilization of materials, and suitability to site and neighborhood. The jury of selection, headed by Dr. D. H. Gordon of the Baltimore Municipal Art Society, included Joseph A. Brown, Miss Theo Jacobs, Louis Justement, Washington Chapter AIA, and Wm. D. Lamdin, Baltimore Chapter AIA.

N. Y. STATE ASS'N AND TEXAS SOCIETY OF ARCHITECTS CONVENE THIS MONTH

TWO SIGNIFICANT CONCLAVES of the profession are scheduled to occur this month on the same dates—while the New York State Association of Architects gathers at Rochester on September 26, 27, and 28 for its third annual convention, the newly formed Texas Society of Architects will meet at Austin for its first annual get-together.

Although final plans for the Texas gathering have not been completed at this writing, according to *George R. Johnson*, publicity chairman, a comprehensive program is being worked out under *George L. Dahl* of Dallas, vice-president and convention chairman of the Society. The meeting is being called primarily to discuss ways and means of promoting better public service among the profession's members in the state, and on a state-wide basis the architect's part in the national defense program. A feature of the three-day session will be a public exhibit of materials, methods of construction, and outstanding Texas architectural achievements. Departments of Architecture of the University of Texas, A & M College, Rice Institute, and Texas Tech. have been asked to co-operate.

At Rochester, according to prospectuses from *James Wm. Kideney*, Society president, and *Leonard A. Waasdorp*, convention chairman, participants will engage in a program designed to spotlight a broad scope of problems, not only of local pertinence but of concern to the profession at large. Among topics scheduled for treatment in sectional meetings, business sessions, and general assemblies and symposia are: "City Planning and the Architect's Opportunity," *Ralph Walker*, F.AIA, Chairman; "The Unification of the Architectural Profession," *Mathew W. Del Gaudio*, AIA, presiding; "Large Scale Housing," *Richmond H. Shreve*, F.AIA, Chairman; "Improvement of the Economic Status of the Architect" (a subtopic of which will be "The Registration Law and its Enforcement"), *Charles R. Ellis*, Vice-president N. Y. State Association of Architects, Chairman; and "Publicity and the Architect," with *Maxwell A. Cantor*, AIA, presiding. The Association issues a cordial invitation to every architect in the state to attend.

PRATT ARCHITECTURAL CLINIC KEPT BUSY ALL SUMMER

OVER AT PRATT INSTITUTE, Brooklyn, summer brought no cessation of activities to the Architectural Clinic (see AR, 4/40, p. 8), even though regular classes were not in session. Professor *Cecil C. Briggs*, head of the Institute's architectural department, reports that graduate "interns," under the supervision of registered faculty and practicing architects, had their hands full, with unabating requests for consultation on problems of building, remodeling, estimates, and real estate. The Clinic, opened on March 1 as a means of giving students practical experience preparatory to registration examinations, by offering the public certain architectural services at a nominal cost, brought many more requests than could possibly be handled during the academic year.

Jobs taken on by the Clinic have ranged from simple inquiries received and answered by mail or telephone, to others requiring highly detailed reports, and still others calling for complete architectural services from preliminary investigations to building plans. Clients are charged only for expenses, such as traveling and materials, strictly at cost, in addition to the nominal registration fee of one dollar. Also, according to Mr. Briggs, only those assignments are accepted which do not take profitable business away from men already established in the profession. All other projects discovered to the clinic are turned over to practicing architects.

Typical of present jobs on the Clinic's books is a small summer cottage to be built in Connecticut, with an allowance for materials of only $100. Plans prepared by architectural "interns" call for an all-purpose living room with convertible furnishings. Provision has also been made in the design for eventual enlargement and weatherproofing for year-around living.

NEWS FROM THE SCHOOLS

A NEW CENTER of technical education and research materialized officially in the recent first meeting of the Board of Trustees and election of officers of

(Continued on page 12)

CALENDAR OF EVENTS

- **September 26–28**—Third Annual Convention of New York State Association of Architects, Rochester, N. Y.
- **September 26–28**—First Annual Convention, Texas Society of Architects, Austin, Tex.
- **October 2–4** — Exposition of Building Industry and Services, sponsored by Mortgage Bankers' Association of America. Drake Hotel, Chicago, Ill.
- **October 14–15** — Fall meeting, American Society of Heating and Ventilating Engineers. Rice Hotel, Houston, Tex.

venturi-flo CEILING OUTLETS

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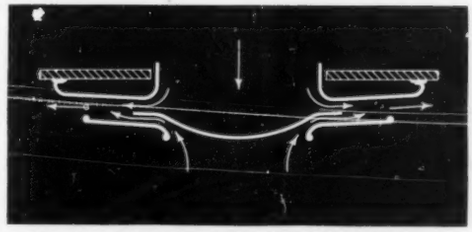
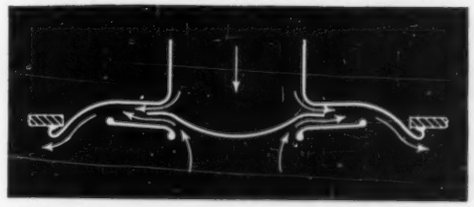
VENTURI-FLO is a carefully engineered Ceiling Outlet for providing properly blended and uniformly distributed air in either cooling or heating service. Its efficiency has been accurately determined by exhaustive tests in a specially designed laboratory, and its performance is so well established under a wide range of conditions that proper size selection and location can be easily accomplished. "Venturi" action produces a properly blended discharge mixture obtained by aspirating room air and diffusing it thoroughly with the supply air. A wide variety of sizes are available in both Flush and Surface types. The plant "back of" this product is a sizeable concern, offering over forty years of manufacturing experience, with a skilled staff and adequate modern development facilities.



SECTION OF SURFACE TYPE VENTURI-FLO



SECTION OF FLUSH TYPE VENTURI-FLO

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS

REDUCTION IN COAL CONSUMPTION SAVES $490 IN ONE YEAR

Webster Moderator System Helps Social Service Building to Improve Heating Service

MEETS VARIED HEATING NEEDS

Office Rentals Paid by Social Agencies Prove Adequate to Operate Large Building

USED BY 30 ORGANIZATIONS

Philadelphia, Pa.—With a Webster Hylo System of Steam Heating directly controlling the dampers on a hand-fired coal burning installation, the Social Service Building reduced heating costs $490.62 during the 1936-37 heating season.

This performance record, supplemented during the first three months of the 1937-38 season by coal savings having a cash value of $185.37, convinced the owners of the Social Service Building of the efficiency of the Webster Hylo System. In January, 1938, the transaction was closed for the base cash price without financing charges, because payment had been completed within the two-year period specified in the contract.

Social Service Building, Philadelphia

"With the Webster Hylo System," says E. Ross Wilson, Manager of the Social Service Building, "we receive balanced heating service in all sections of the building—auditorium, library, office suites and storage sections."

The Social Service Building, constructed in 1924, is occupied by 30 separate organizations devoted to social work.

George B. Grey & Son, of Philadelphia, made the heating installation. There is a total of 14,500 sq. ft. of installed direct radiation.

These before-and-after facts point the way to maximum comfort and economy in heating new buildings as well as in modernization of existing installations. Consult your architect, engineer or heating contractor. Or address

WARREN WEBSTER & CO., Camden, N. J.
Pioneers of the Vacuum System of Steam Heating
Representatives in 60 principal U.S. Cities—Est. 1888

WITH RECORD READERS

(*Continued from page* 10)

Illinois Institute of Technology (see AR, 12/39, p. 120), formed through the merger of Armour Institute of Technology and Lewis Institute. *Henry T. Heald*, 35 years old, for two years president of Armour, was elected president of the new institution; elected chairman of the Board of Trustees was *James D. Cunningham*, who formerly occupied that position at Armour; elected vice-chairman was *Alex D. Bailey*, for many years chairman of the Lewis board.

* * *

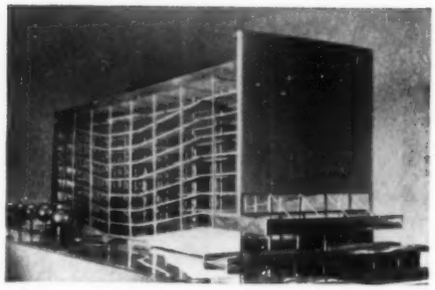
DEAN LEOPOLD ARNAUD announces that the Columbia University School of Architecture now requires a minimum of one year of academic studies at a recognized institution—instead of two years, as formerly—for entrance to the four-year professional course; also, that "recognizing the ever increasing need for professionals with specialized training in Planning and Housing, Columbia will offer an M.S. degree in that field, starting with the school year 1940-41."

PARKER NAMED AMERICAN FEDERATION OF ARTS DIRECTOR

THOMAS C. PARKER, former Deputy Director of the WPA Art Program, has been appointed Director of the American Federation of Arts, according to a recent announcement by Federation President the Hon. *Robert Woods Bliss*.

Mr. Parker, 35 years old, attended the University of Virginia and is a native of that state. For three years prior to his work with the Federal Art Program, he was director of the Richmond Academy of Arts; he also served on the Governor's advisory committee in planning the creation of the Virginia State Museum of Fine Arts. Until resigning his post to accept the Federation appointment, Mr. Parker had been with the WPA Art Program since its inception in 1935, when he was named assistant to *Holger Cahill*, Director. He was elevated to the position of Deputy Director in 1938.

"His outstanding achievement", according to President Bliss, "and one which makes his services particularly valuable to the American Federation of Arts, has been his successful promotion of the Community Art Center program of WPA. Under this plan 82 community art centers and galleries have been established and are operating under joint local and WPA auspices, in 22 states. As much as anything else, this program has been responsible for the awakening of the American public to a new enjoyment and understanding of art."



Pictured above is the "open-air multi-story carport" proposed by Architect Richard J. Neutra for daytime storage of vehicles driven by decentralized workers to the partly executed, partly contemplated Los Angeles Civic Center. Construction is planned in welded steel; ramps would be statically utilized as bracing elements to secure lateral resistance in an otherwise wide-open skeleton building, planned for erection in a region of equable climatic conditions.

The American Federation of Arts, the direction of whose activities Mr. Parker will assume at once, was formed at a convention of distinguished citizens and art-museum and association delegates in Washington, D. C., May 1909. Since then it has developed an individual membership of over 5000, supplemented by more than 500 local chapters representing some 325,000 artists and art lovers. Among its activities have been a total of 1,460 different art exhibitions with more than 7,000 individual showings here and abroad; responsibility for assembling the exhibit of American Arts and Crafts for the Paris International Exhibit of 1937; and the initiation, in co-operation with the General Federation of Women's Clubs, of "Art in America," the first nation-wide series of radio broadcasts on art. The Federation has also exerted strong influence in national legislation touching on its field of interest, having been instrumental in the removal of tariff on works of art, the establishment of the Commission of Fine Arts, and the adoption of the Burnham Commission Plan for developing and beautifying Washington.

New Addresses

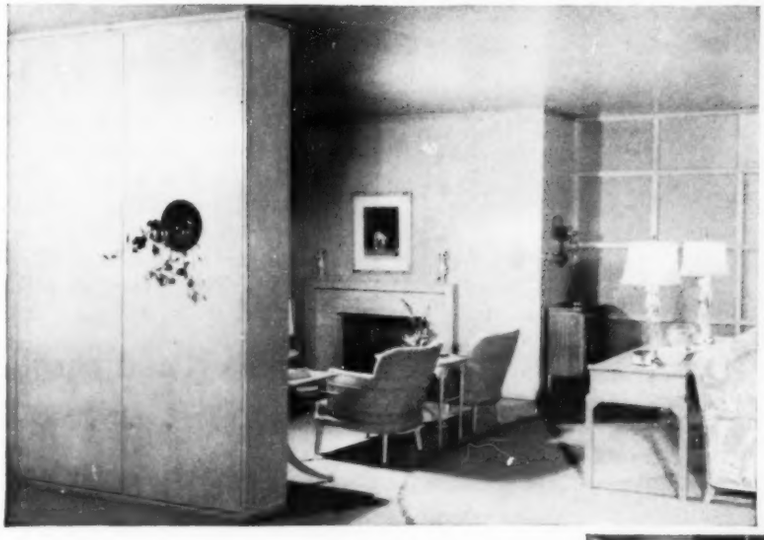
THE RECORD publishes changed and new addresses only on submission, making no attempt to keep a day-by-day account. The only organization in the country with facilities for doing this is **Sweet's Catalog Service**, whose painstakingly maintained list undergoes an

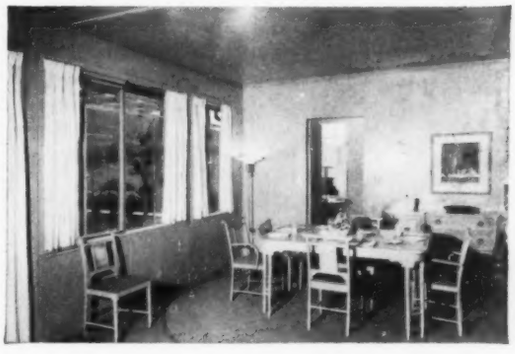
(*Continued on page* 14)

For better built-ins and finer walls always specify PLYPANEL

THE CABINET GRADE OF DOUGLAS FIR PLYWOOD

These photographs of "The House in the Sun" show the amazing possibilities of Plypanel!





Both the living room (left) and the dining room walls (above) are 3/8" Plypanel installed vertically and lightly stained. The ceilings are 1/4" Plywall. "The House in the Sun" was designed by Sumner Spaulding and built by Kersey Kinsey as a demonstration home in North Hollywood, California. It was furnished by Bullock's.

There is a grade and thickness of Plypanel for every need!

Plypanel is the grade of Douglas Fir Plywood made for cabinetwork, built-ins, substantial walls, fine paneling, furniture and similar uses where the finest appearance is desired.

Plypanel comes in three classifications: (1) Good 2 Sides (G2S) in which each face is a single veneer of 100% heartwood, free from defects. This type should be used for the highest quality interior work where both sides of the panel will be exposed to view and natural or light stain finishes used. (2) Good 1 Side (G1S) which has a good face and a sound back. This is the type to use for high quality walls and cabinets where only one side is exposed to view. (3) Sound 2 Sides (So. 2S) in which each face may be made up of one or more pieces of veneer, well-joined and reasonably matched for color and grain at joints. Each face of this type is equivalent in quality to face of the Plywall *(wallboard)* grade.

Plypanel is made in a variety of thicknesses and sizes. It conforms to strict requirements of U. S. Commercial Standard CS45-38 and is edge-branded with a distinctive Plypanel "grade trade-mark" to make specification and identification easy.

The built-ins are naturally Plypanel. 3/8" Plywall was used for the ceiling and as a wall base for enameled hardboard.

PLYPANEL D.F.P.A.

The "Grade Trade-mark" above is stamped on the edge of every genuine Plypanel. For further information about Plypanel, consult Sweet's catalog or write Douglas Fir Plywood Assn., Tacoma Building, Tacoma, Wash., for free literature.

DOUGLAS FIR PLYWOOD
Real Lumber
MADE LARGER, LIGHTER
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GENUINE DOUGLAS FIR PLYFORM Concrete Form Panel D.F.P.A. INSPECTED

GENUINE PLYWALL Douglas Fir Plywood WALLBOARD D.F.P.A. INSPECTED

SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"

PLYPANEL D.F.P.A.

EXT.-D.F.P.A.

GENUINE PLYSCORD SHEATHING D.F.P.A. INSPECTED

Doctors' Hospital, Washington, D. C. Francisco & Jacobus, architects and engineers; Buensod-Stacey Air Conditioning, Inc., air conditioning contractors; New York. Standard Engineering Co., ventilating contractors, Washington.

THOS. F. SCOTT PHOTO

Health-giving Comfort WITH AIR CONDITIONING CONTROLLED BY JOHNSON

Modern hospitals are typical examples of the American way to better living. In Doctors' Hospital, Washington, Johnson automatic temperature and humidity control is an important part of the comprehensive air conditioning system in the operating room section. Supplying the automatic, efficient "brainwork" in this installation are 55 Johnson thermostats and humidostats, operating Johnson valves and dampers. Most of those instruments are remotely adjusted from a central control panel, so that the temperature and humidity of any room may be reset from a single point. Special problems, such as this, are "regular business" for the Johnson organization. Consult one of our engineers, from a nearby branch office, or ask your consulting engineer and air conditioning contractor to secure Johnson's recommendations.

JOHNSON
Automatic TEMPERATURE AND AIR CONDITIONING *Control*
JOHNSON SERVICE COMPANY, MILWAUKEE, WIS. & BRANCHES IN PRINCIPAL CITIES

WITH RECORD READERS

(*Continued from page 12*)

average revision of 23 changes for every working day in the year. Below are the new addresses recently brought to our attention:

Armand Bartos and *Alden Thompson* announce the location of Bartos-Thompson Design at 400 Madison Ave., New York City . . . The firm of Albert Kahn, Inc., Architects and Engineers, announces the formation of a new corporation to be known as *Albert Kahn Associated Architects and Engineers*, with all members of the organization participating as stockholders. *Albert Kahn* and *Louis Kahn* head the new firm; offices remain in the New Center Bldg., Detroit, Mich. . . . *Carl H. Ording* has opened an office for the practice of architecture at Room 501, City National Bank Building, Kankakee, Ill. . . . *Charles I. Wolf* announces the opening of an office for the general practice of architecture at 60 E. 42nd Street, New York City.

* * *

THE DIRECTORY OF ARCHITECTS for educational buildings which appears annually in "The American School and University" is now being revised for the 1941 edition. The American School Publishing Corp. announces that there is no charge for listing, and architects who wish to have their names and addresses either added or changed in the directory may do so by writing to "The American School and University," 470 Fourth Ave., New York City.

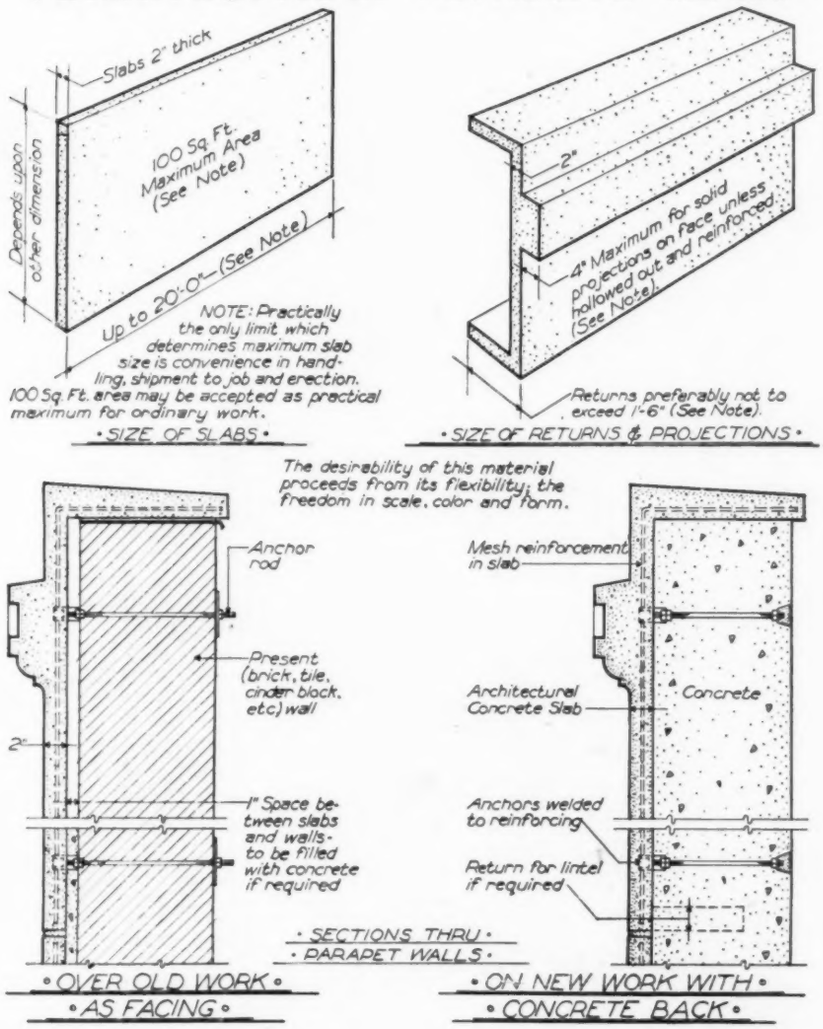
Wallace & Sons

A tornado swept recently over Evansville, Ind., and directly over two rows of new houses—built to FHA specifications—not one of them over eight months old. According to a release from the "Pacific Techni-News Service", the only one not written off as a total loss was a house (above, right) constructed of plywood, attached to the frame with self-bonding glue. Walls, framing members, subfloors, and roof sheathing, all glue "welded", remained as one integral piece even in the face of a 200-mile-an-hour gale. Cost of rehabilitation was estimated at approximately 10% of the original value.

*TYPHONITE ELDORADO PENCIL PAGE

CONCRETE NEWS

ARCHITECTURAL CONCRETE SLABS


Slabs 2" thick
Depends upon other dimension
100 Sq. Ft. Maximum Area (See Note)
Up to 20'-0" (See Note)
NOTE: Practically the only limit which determines maximum slab size is convenience in handling, shipment to job and erection.
100 Sq. Ft. area may be accepted as practical maximum for ordinary work.
• SIZE OF SLABS •
2"
4" Maximum for solid projections on face unless hollowed out and reinforced. (See Note).
Returns preferably not to exceed 1'-6" (See Note).
• SIZE OF RETURNS & PROJECTIONS •
The desirability of this material proceeds from its flexibility; the freedom in scale, color and form.
Anchor rod
Present (brick, tile, cinder block, etc.) wall
2"
1" Space between slabs and walls to be filled with concrete if required
Mesh reinforcement in slab
Architectural Concrete Slab
Concrete
Anchors welded to reinforcing
Return for lintel if required
• SECTIONS THRU • • PARAPET WALLS •
• OVER OLD WORK • • AS FACING •
• ON NEW WORK WITH • • CONCRETE BACK •

Two-inch thick architectural concrete slabs, typified in these Dixon *Typhonite* Eldorado drawings, are apparently finding many uses as a facing material both in new and remodeling work. The material is completely flexible since it offers large unit areas, complete freedom of choice in aggregates for color effects, and can be used with any backing material.

Integral returns and projections simplify construction to a large extent while reducing the danger of joint leakage and the necessity for flashing. Only limits to size of pieces are convenience in handling, shipment and erection.

The accompanying drawings show the application of concrete slabs. They also reveal something of the quality of the pencil used in making them—Dixon's *Typhonite* Eldorado F for lines and HB for lettering.

This quality results from the *exclusive Dixon process in which the power of a typhoon of super-heated steam creates a new form of graphite—Typhonite. Thanks to this process the infinitely small particles of Typhonite are of controlled size, a hitherto unachieved performance.

This assures leads of unequalled evenness and strength, whose lines are so opaque and even that perfect blueprints can be made directly from the working drawings.

A FREE BLUEPRINT made from these original drawings will impress this fact on you. Get one for reference by writing to address below. Ask for print No. 225-J9.

PENCIL SALES DEPARTMENT, JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N. J.

SEVENTEEN NOMINATIONS: Rundel Memorial Building (Rochester Public Library); architects were Gordon & Kaelber.

FOURTEEN NOMINATIONS: Munro Hall, College for Women, U. of Rochester; W. G. Kaelber and L. A. Waasdorp, Architects

Photos by Admursky, from Sickles

TWELVE NOMINATIONS: Cutler Union, College for Women, University of Rochester; designed by Gordon & Kaelber

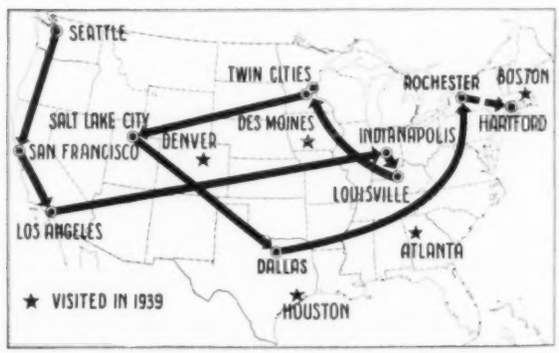
RECORD POLL VISITS ROCHESTER

READERS PLANNING TO take in Rochester and the New York State Association of Architects Convention this month (see page 10) should find this September poll of particular interest. The RECORD presents a number of buildings in that city, judged by a group of lay citizens to be outstanding examples of recent local work by the profession.

Because of the concurrence of this month's inquiry into the state of public architectural consciousness with a professional event of note, it may be timely to restate: The purpose of these polls is to show how the citizenry at large is responding to contemporary professional efforts; what do *they*—after all, the consumers—consider outstanding among the examples of design and construction produced for them during the last five years or so? For the validity of our cross-sectional-group methods, and the results obtained thereby, we defer to the precedent of Dr. Frank Gallup. The RECORD's policy is to refrain from any editorialization, either pro or con, on the buildings which turn up with most nominations in the various cities visited each month by the Poll. Whatever inferences may be present in the results are left largely to be drawn by the reader.

The following citizens of Rochester submitted nominations: *Harold W. Baker*, former City Manager; *Raymond N. Ball*, bank and trust executive; *Emanuel Balaban*, musician; *Willis E. Bowen*, M.D.; *Harvey J. Burkhart*, dental-dispensary director; *L. B. Cartwright*, City Manager; *James P. B. Duffy*, lawyer; *M. H. Eisenhart*, optical-company executive; *George D. Greenwood*, D.D.S.; *A. A. Hopeman*, executive; *C. F. Hutchison*, camera-works executive; *E. S. Ingersoll*, M.D.; *Albert D. Kaiser*, M.D.; *Raymond A. Lander*, manufacturer; *John A. Lowe*, Director of Libraries, author; *Gertrude H. Moore*, art-gallery director; *Samuel R. Parry*, manufacturer; *Dr. and Mrs. Harry Segal*; *James M. Spinning*, Superintendent of Schools; *H. C. Stevenson*, manufacturer; *L. B. Swift*, manufacturer; *Raymond L. Thompson*, University of Rochester Treas-

(*Continued on page* 18)



Hartford, Conn., will be visited next by the Poll.

GIVE THEM THE TISSUES THEY CHOOSE AT HOME

Today, millions of American homes prefer Scott Tissues and Scott Towels. You can give your clients this same Luxury Service *at surprisingly low cost*

NO QUESTION of tissue quality when you specify Scott fixtures! Many of your clients prefer ScotTissue for home use . . . select it for its softness and absorbency! And ScotTissue may make worthwhile savings in service, for it is supplied in roll form . . . long lasting and economical.

Use the Scott Advisory Service *for More Efficient Washrooms*

To help you give clients more comfortable and efficient washrooms, trained Scott staff members are always available to work with you. Their comprehensive knowledge of general layout and fixture location will prove valuable in designing washrooms that satisfy every user, cost less to operate, provide a better service on tissues and towels.

Plan for Better Public Relations

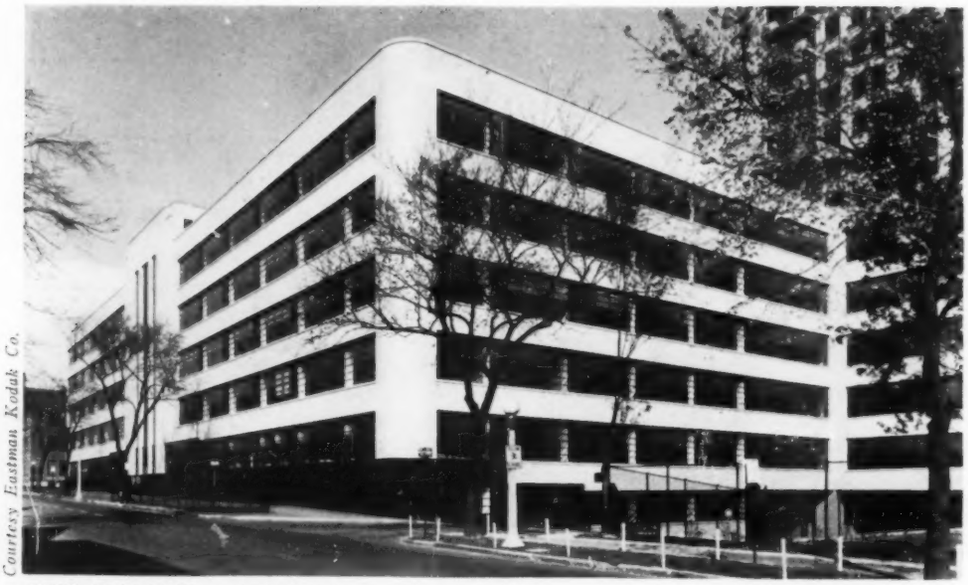
Towel service plays an important part in clients' Industrial and Public Relations. Specify ScotTissue Towels and Cabinets. "Soft-Tuff" ScotTissue Towels are absorbent and S-T-R-E-T-C-H-Y . . . pleasing and satisfactory to both men and women. They dry thoroughly . . . provide low-cost service.

For details on these Scott products and complete information on the Scott Washroom Advisory Service, consult Sweet's Catalog or write Scott Paper Company, Chester, Pa.

NO DAMAGE TO WALLS when you use Scott Special Adhesive to install fixtures. This exclusive Scott development makes installation easy . . . eliminates ugly drill holes. Fixtures are held securely in place, can be quickly relocated at any time.

ScotTissue

Trade Mark "ScotTissue" Reg. U. S. Pat. Off.
Trade Mark "Soft-Tuff" Reg. App. for
Copr., 1940, Scott Paper Company



Courtesy Eastman Kodak Co.

ELEVEN NOMINATIONS: The new camera factory of the Eastman Kodak Company. The building was designed by the staff of the Eastman Kodak Engineering Department.

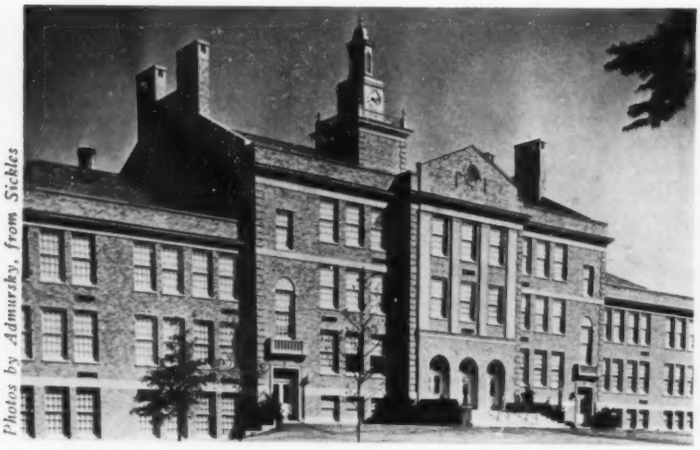
RECORD POLL IN ROCHESTER

(Continued from page 16)

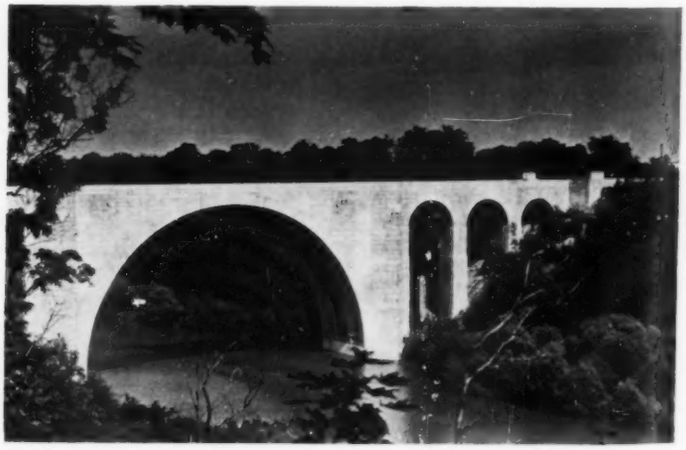
urer; *John Wenrich*, illustrator; *Warren Wooden*, M.D.; *Burbank C. Young*, broker.

Buildings receiving a number of nominations but less than the pictured winners: Charlotte High School (Francis R. Scherer, Architect); Clapp Baby Food factory (Sigmund Firestone); Colgate Rochester Divinity School (James Gamble Rogers); Gustav Fassin residence (Gustav Fassin); Fred H. Gordon, Jr., residence (Wm. G. Kaelber and L. A. Waasdorp); G. J. C. McCurdy residence (Wiard & Martin).

SEVEN NOMINATIONS (left): John Marshall High School; Francis R. Scherer, Architect. SIX NOMINATIONS (right): Academy of Medicine; Gordon & Kaelber designed original building; C. Storrs Barrows was architect for the new addition.



Photos by Admursky, from Sickles



FOUR NOMINATIONS (left): Brighton High School; Charles Carpenter, Architect. FOUR NOMINATIONS (right): Veterans' Memorial Bridge, though beyond time limit, included because of popular demand; erected 1932; designed by McKibbon.

Best-laid plans of editors—like those of mice and men—sometimes must be changed. A case in point is the *Telesis* story on pp. 69 to 72 of this issue. We hadn't figured on running an exhibition story in October. We'd planned to present another in our series of interior-detail studies. But when—literally at the last editorial moment—one of our editors wired us from the West Coast that we shouldn't miss the story of what a group of enterprising San Francisco architects had accomplished for themselves and their profession through an outstanding job of showmanship, we tore the October issue apart. When we finally remade the issue, *Telesis* was included. So read this month what makes an architectural exhibit click and look forward to seeing more interior details in December.

* * *

Speaking of details, take a long look at the *Time-Saver Standards* this month (pp. 103 to 106). Belaboring the obvious, we point to the revised format and new typography; to tersely inclusive text and drawn-to-scale diagrams, each developed to complement the other, and presented in combination as easy-to-use reference data. In short we call attention to these Time-Saver Standards as typical of the working information which you have all been demanding that the RECORD publish.

If ever a staff of editors received a mandate to publish anything, we've been singled out so far as this familiar Time-Saver Standards presentation is concerned.

In we-don't-know-how-many letters you architects (and the whole tribe of your technical cousins throughout the building field) have made it clear, in no uncertain terms, that "this sort of practical, reliable reference data is what we need; and why the hell—."

All right! Here it is in October. And here it is to stay; for each future issue of the RECORD will contain from four to eight pages of reliable, time-saving data. Subject matter will naturally cover a wide range of usefulness; but its presentation will be similar in form and function to the Time-Saver Standards pages of this issue.

So quit cussing us out! File your epistolary shillelaghs and brass knuckles in the wastebasket; but don't stop writing us. Let us know what subjects you want Time-Saver Standards to include; and you'll be helping to make the RECORD a better working tool for architects than it's ever been before.

* * *

Those of you who voiced approval of the Bankers Life Building presentation in the June RECORD can pat yourselves on the back. Your judgment was confirmed when, on September 19th, the RECORD received a Special Award for the "editorial excellence" of these pages, as the result of a competition conducted annually by *Industrial Marketing* for "excellence in editorial achievement." That the RECORD was singled out from a field of some 20 publications for this honor is a fact that naturally makes us pretty proud. And we can't help feeling that this approval of our publishing contemporaries is forceful justification of the RECORD's technique for reporting the architectural story of a building. It's necessarily pictorial to a large degree; but graphic, concise description, and logical layout devoid of arty tricks, are of almost equal importance. With such a building as the Bankers Life we had a chance to achieve the spectacular. But fundamentally every RECORD presentation of a building project is developed on the same editorial chassis.

Don't take that statement for complacency. On the contrary, *Industrial Marketing's* award puts the RECORD staff way up on its editorial toes.

* * *

Correction: On page 93, AR, 8/40, we described, incorrectly, the heating system in Kimbrough Tower Apartments. Each group of six apartments is heated by a gas-fired warm-air furnace equipped with a fan-filter unit—the first installation of this kind which has come to our attention.

"Poor old Tom—he still thinks a woman's place is in the machine for living."
—Drawn for the RECORD by Alan Dunn

It takes 30 pairs of hands—

to complete a MESKER STEEL WINDOW

HERE'S WHY MESKER HEAVY DUTY STEEL SASH LAST LONGER . . . ARE MORE WEATHERTIGHT AND ALWAYS WORK EASIER:

- Mesker pivoted sash are made of sturdy heavy duty steel sections a full 1½ in. deep from front to back. All joints are welded throughout assuring greater strength.
- More weathertight because . . . All of Mesker's weathering members are made of hot-rolled angles a full ⅛ in. thick . . . no thin sheet metal sections used anywhere.
- Always work easier because . . . Mesker master engineering has developed the famous solid bronze cup pivot that will never rust, wear out or fall to pieces.

This doesn't mean thirty hand operations, either. From the time the dies are set . . . the steel cut and shaped to your specifications . . . and handed to the next two pairs of hands which assemble the outer frames YOUR WINDOWS ARE WORKED ON BY 30 PAIRS OF SKILLED HANDS. They are fitted by hand . . . welded by hand . . . individually assembled by hand . . . and, most important, your MESKER STEEL WINDOWS are finally shaped by hand. There are trained workers who specialize in fitting the windows made to your specifications in specially constructed adjustable openings. And when those hands have tested your Mesker Steel Windows you can lay a bet on their perfection of fit. There's no inflexible allotment of time for every operation. For the men behind these hands have just one goal . . . to build the best steel windows you can buy!

- Mesker Projected Windows
- Mesker Detention Windows
- Mesker Industrial Windows
- Mesker Metal Screens
- Mesker Basement Windows
- Mesker Utility Windows
- Mesker Custom Casements
- Mesker Metropolitan Casements
- Mesker Master Casements
- Mesker Guildhall Casements
- Mesker Metal Sub-Frames
- Mesker Pivoted Windows

SINCE 1879

Mesker BROTHERS

424 SOUTH 7th STREET
ST. LOUIS, MO.

See the 24 page Mesker catalog in Sweet's architectural files. Section 15/15

Write today for complete details on the Mesker Dealer Plan. Your territory may be open.

MESKER BROTHERS • ST. LOUIS, MO.

WHEN PENCILS WRITE *Nairn* ARCHITECTS SPECIFY

In this smart, modern kitchen, the architect has built his decorative scheme around a beautiful Nairn Veltone Pattern. Border, counter tops, drainboards and splashboard are Nairn Linoleum. Note cove-base treatment (left of door) eliminating cracks at junction of floor and wall — making cleaning easier.

WILL it be lastingly attractive? Practical for my clients? Within the client's budget?

These are the questions the architect must ask about the material he selects for kitchen floors. And in Nairn Linoleum, he finds the perfect answers to all three.

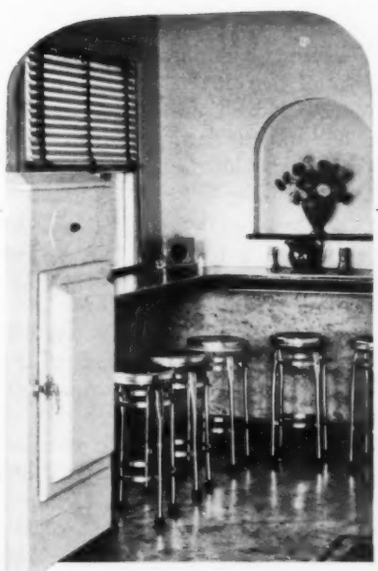
BEAUTY . . . Assured by a wide range of colorful, distinctive patterns. From them you can choose the exact one to fit any decorative scheme.

UTILITY . . . Nairn Linoleum wears for years, even under the heaviest foot traffic. Its extra-smooth surface is free of dirt-collecting cracks and crevices. Remarkably easy to clean.

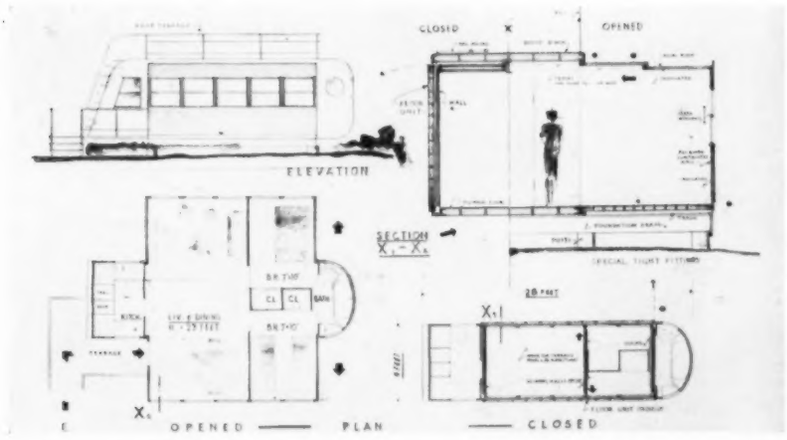
ECONOMY . . . Moderate in first cost, Nairn Linoleum requires little maintenance. Needs no costly refinishing . . . a point builders can use to advantage with prospective clients. Installed by Authorized Contractors, Nairn Linoleum is fully guaranteed.

CONGOLEUM-NAIRN INC., KEARNY, N. J.

NAIRN
REG. U. S. PAT. OFF.
LINOLEUM
Floors and Walls



Notice how linoleum has been used as a wainscot for this convenient breakfast-nook. Just another utility feature of Nairn Linoleum! It prevents damage from kicking and scuffing. Washing with mild soap and water keeps it fresh and new-looking.



Architect Alfred Clauss of Knoxville, Tenn., offers the above scheme as one possible solution to defense housing needs. Necessary reductions in reproducing his drawings have obscured some details, but we hope not the essential idea. Size of shipping unit, according to Mr. Clauss, is 8 by 9 by 28 ft.; size of extended house, 22 by 11 by 28 ft.; estimated cost, $900; weight, 6800 lbs.; erection time, one hour, with unskilled labor.

Mid-West Architectural Conference Draws Delegates from Six States

PROBLEMS OF increasingly vital concern to all American architects absorbed the attention of delegates from six states at the second annual Mid-West Conference, held on September 12 and 13 at Cranbrook Academy of Art, Bloomfield Hills, Mich.

Following a declaration by *Clair W. Ditchy* of Detroit that "We are here . . . to devote some time to co-operative effort and to consider methods of meeting and dealing with each other as well as with the public," *Leigh Hunt* of Milwaukee spoke on the subject of "Unification." Stating that "perhaps the thing most lacking among architects is working together outside their own offices," Mr. Hunt warned that "successful co-operative effort . . . is found more among builders and contracting bodies than among architects," and developed his arguments toward the conclusion that more money and effort must be expended in demonstrating to members of the profession at large the importance of affiliating state societies with the AIA in order to achieve unified action and betterment of professional conditions.

Talmage C. Hughes of Detroit, speaking next on "Public Information," dismissed the truism "Virtue is its own reward" as being no longer a valid single basis for popular recognition of the architect's value to society. Members of the profession, according to Mr. Hughes, must seize every opportunity to place themselves favorably before the public's eyes. Newspapers, magazines, radio—all available media—must be utilized to the fullest in reporting elections, honors, appointments, exhibitions, competitions, lectures, and all such events and activities as will tend to establish before the public the architect's essential importance to every phase and operation of the design and construction field.

Other addresses of general significance were: "Professional Practice" by *Leo A. Bauer*, Detroit, wherein, among other issues, he discussed the encroachment on the architectural profession of large industrial contracting concerns; "Architectural Clinics" by *Branson V. Gamber*, Detroit, in which he dwelt particularly upon the Architects' Co-operative Service Bureau, recently organized under the sponsorship of the Detroit Division of the Michigan Society of Architects; "The Architect and the Small House" by *Edward D. Pierre*, Indianapolis, from which we quote: "In its determination to solve the small house problem will the architectural profession discharge its first duty to the nation, its sacred obligation to the young men of the profession, and its golden opportunity for service and substantial profit"; and "Auto Courts" by *Kenneth C. Black*, Lansing, in which he pointed to numerous profitable possibilities in this field for the architectural profession.

At the final banquet, National AIA President *Edwin Bergstrom* talked on the "Preparedness Program," and predicted on the basis of his wide knowledge of the situation that "Civilian housing will be the chief task of architects in the national defense program."

Words and Action on National Defense

AS EVIDENCE of the response in thought and action which national preparedness is prompting amongst architects and the building field, the RECORD quotes from the following sources:

Washington, D. C. (From a report recently issued by the Washington Build-

(*Continued on page 12*)

CALENDAR OF EVENTS

- **October 1-20**—Memorial Exhibition of the work of John Calvin Stevens, F.A.I.A., L. M. Sweat Memorial Art Museum, Portland, Maine.
- **October 12-November 4**—9th Annual National Ceramic Exhibition, Syracuse Museum of Fine Arts, Syracuse, N. Y.
- **October 15-18**—18th Annual Convention, American Institute of Steel Construction, Greenbrier Hotel, White Sulphur Springs, W. Va.
- **November 1-January 2**—"Art Finds a Way," exhibition at Brooklyn Museum, Brooklyn, N. Y.

..."does not leak and so for all useful purposes it is as good today as when installed. But it does not seem possible that a roof can last this long without some attention."

Name on request

24 YEARS

TRUE . . *it does not seem possible* . . BUT

FEDERAL ROOFS

are made of time-defying PRECAST CONCRETE which actually *improves with age . . . cannot rot, rust or disintegrate . . . never requires any painting, repairs or replacements . . .*

● Industrial executives are frequently amazed at what seems to be unbelievably long service and economy from their Federal Roofs. The fact is, that Federal *precast concrete* is really lasting—and time, which destroys most other roof materials, actually *adds* strength and value to a Federal Roof. Thus this construction represents the *soundest roof investment possible.*

Right now it is well to bear this fact in mind when selecting a roof for either a permanent building or an emergency structure. Though planned for temporary use, a building may be used later for permanent industry. Covered with a sound Federal Roof, it will always be ready for immediate occupancy, without repair or replacement. *This is fact borne out by experience on both private and government buildings, with Federal Roofs in service 30 years and more. Select your roof for the future as well as the present.*

Channel Slabs for flat or sloping roofs—Nailing Concrete Slabs to securely hold a sloping ornamental roof—Red Interlocking Slabs for sloping roofs, requiring no composition covering. Catalog on request.

FEDERAL-AMERICAN CEMENT TILE CO.

608 So. Dearborn St. - - For Over Thirty Years - - Sales Offices In Principal Cities - - Chicago, Illinois

Laying *Featherweight* Precast Concrete Channel Slabs directly on the steel roof purlins of the American Maize Products Co., Robey, Ind. There are 92,000 sq. ft. of Federal Slabs at this plant.

NEW ENGLAND POWER BUILDING HEATED EVENLY BY STEAM

Temperature Variation of Less than 2° is Accomplished with Webster Moderator System

OFFICES COMFORTABLY HEATED

Heating Installation Includes Webster Traps and Valves for 648 Radiators

STEAM PROVES ITS ECONOMY

Boston, Mass.—Steam heating comfort with a temperature variation of less than two degrees is provided in the New England Power Building by a centrally controlled Webster Moderator System.

Built in 1937, the 11-story New England Power Building is one of the most modern office buildings in New England. The building was designed by the well-known Boston architectural firm of Blackall, Clapp, Whittemore & Clark.

New England Power Bldg., Boston, Mass.

McClean, Cousens & Barton, leading Boston firm of Engineers and Heating Contractors, designed and installed the Webster Moderator System.

Heating results have been satisfactory from the time the New England Power Building was first occupied. Desired temperatures are maintained in the numerous office suites by a throttling type of central control which automatically adjusts the rate of steam delivery with every change in outdoor weather conditions. Radiators are kept partially filled with steam during mild weather and fully heated only in coldest weather.

The economy of the Webster Moderator System is established by steam consumption figures for the year, June 1, 1938 to June 1, 1939. The total steam consumption for this period, including steam for hot water, was 6,614,000 lbs., or .046 lbs. of steam per degree day per square foot of radiation.

The heating installation included equipping 648 radiators with Webster Thermostatic Radiator Traps and Webster Radiator Supply Valves. There is a total of 24,393 square feet of installed direct radiation.

The New England Power Building is owned by The Dartmouth Corporation and heated by steam from the mains of the Boston Edison Co.

LOW HEATING COST

GET THIS BOOK . . . Read the fact stories about economy and comfort in the heating of 144 buildings. No exaggerated claims. No promises. Just 64 pages of heating results. Ask for "Performance Facts."

WARREN WEBSTER & CO., Camden, N. J. Pioneers of the Vacuum System of Steam Heating Representatives in 65 principal U. S. Cities—Est. 1888

WITH RECORD READERS

(Continued from page 10)

ing Congress's Industry Survey Committee, headed by *Harry A. Johns*, Washington district manager of the F. W. Dodge Corp.): "The purpose in assembling these data was to obtain a general picture of the local situation and to set up the machinery for getting more specific information about any branch of the industry which government agencies connected with the defense program may find necessary or desirable." Among the survey's findings: 50 architects and 55 general contractors are equipped to perform more than $145,000,000 of work in a year, a considerable increase over current volume.

Philadelphia (From an AIA news release quoting *Edmund R. Purves*, Middle Atlantic regional director of the AIA): "Against a background of ill-considered opinions concerning national defense, the American Institute of Architects has been trying to prepare the profession to serve the country in time of emergency and to make the government aware that architects are valuable and available."

New York City (From an AIA news release quoting *Frederick G. Frost*, New York Chapter president): "High-pressure methods, developed by New York Architects during the pre-depression building boom, must be revived for the rapid construction of plants necessary to rearm the United States . . . Working drawings must be developed while actual construction is in progress . . . Close co-operation between architects and contractors is essential." *Richmond H. Shreve*, New York architect (from the same source): "Low-cost housing (for defense workers) . . . should stimulate prefabricated building to a considerable extent. Prefabrication in the sense of the mass production of complete houses in a factory will probably not be adapted as quickly as the prefabrication of bathroom, heating, and kitchen units around which a frame house can be quickly built."

Utica, N. Y. (From an AIA news release quoting *Clement R. Newkirk*, New York regional director of the AIA): "Apart from the position of the architect in the industrial picture, there is a place for him, by reason of his particular training and experience, as an individual in military affairs"—Mr. Newkirk suggests, among other possibilities, as "observers in the Air Service . . . personnel of the Camouflage Corps."

Milwaukee (From an AIA news release quoting *Peter Brust*, Illinois-Wisconsin regional director of the AIA): "With an abundance of skilled architects, engineers, and industrial workers, Wisconsin is in a strong position to cooperate in the national defense program . . . The architectural profession of the state is organized to proceed with the design and construction of new plants, and otherwise to serve the Federal government."

Museum of Modern Art Announces Two Home-Furnishing Design Competitions

SOMETHING OF A departure from the ordinary in design competitions has been announced by the Museum of Modern Art, New York City. In order to stimulate new ideas in home-furnishing design which will reflect "today's social, economic, technological, and esthetic tendencies and possibilities," two competitions have been opened in this field to: (I) all residents of the United States except employees of the Museum; and (II) all residents of the 20 other American republics in Mexico, Central and South America, and the West Indies.

Competition I: Winners in this group, instead of being premiated with conventional prizes and certificates, will be awarded commissions and contracts from stores or manufacturers for the production and sale of their designs throughout the country; such contracts will provide for payment of royalties or fees to the designer at the usual rates.

"In order to allow as much room as possible for new ideas," according to *Elliot F. Noyes*, Competition Director, "no specific pieces will be called for in this program." Rather, the competition has been divided into nine general categories for which designs may be submitted—e.g., seating for a living room, furniture for a dining room, furniture for outdoor living, fabrics for drapery, upholstery, or other uses.

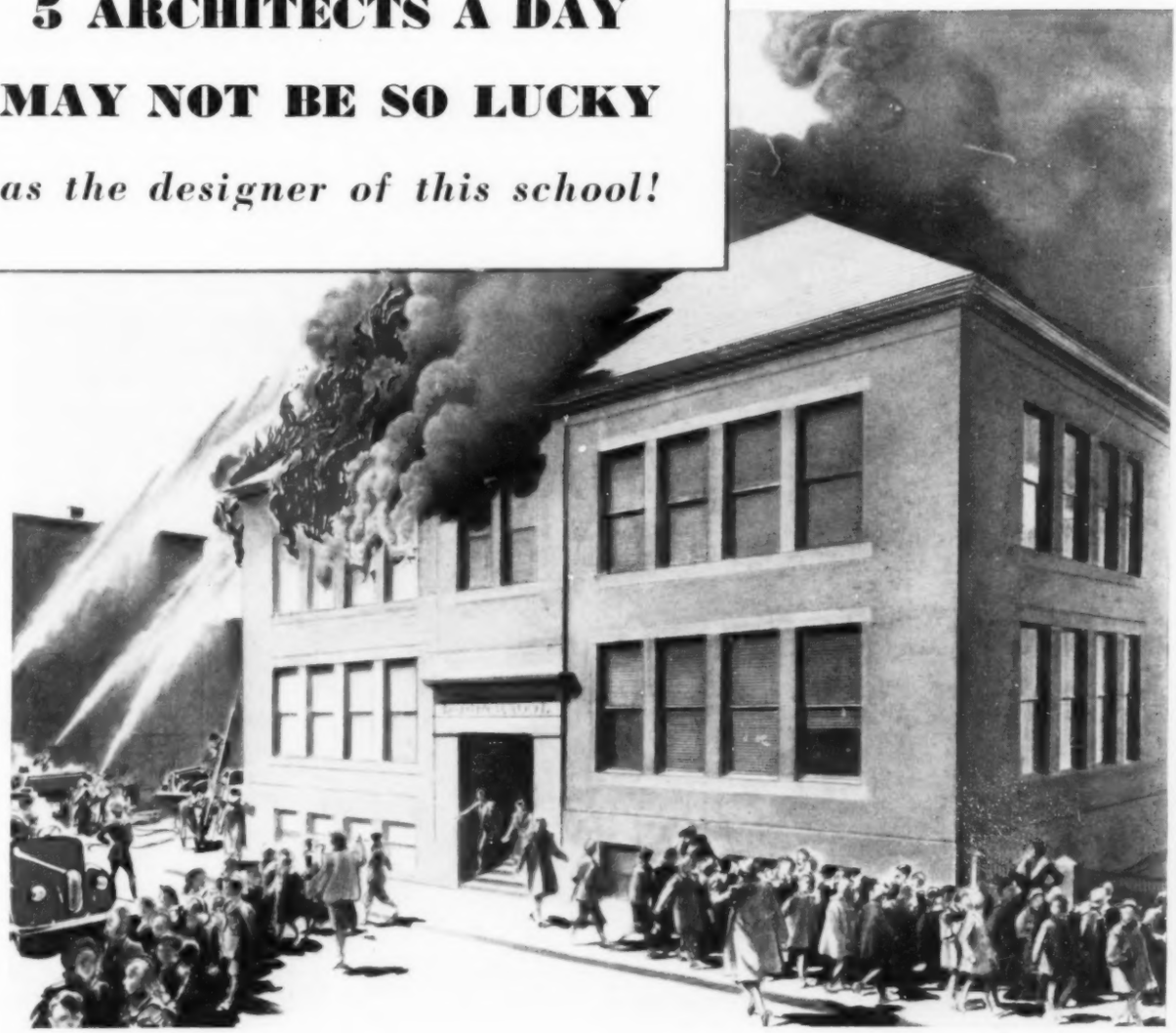
The purpose of Competition II is to discover designers of imagination and ability in the other Americas and bring some of them to New York for a period of a few months. The sponsors are interested particularly in having this program elicit ideas from the participants for application of their own native materials and methods of construction in the making of furniture for contemporary American usage.

Judges for both competitions will be: *Alvar Aalto*, Finnish architect; *Alfred*

(Continued on page 14)

5 ARCHITECTS A DAY MAY NOT BE SO LUCKY

as the designer of this school!



IT'S sheer luck when every child is safely removed from any school where fire has gained headway. And five times daily, Fortune spins this wheel of chance . . . for records show that an average of 5 school fires *start* each day.

Before the plans for any school building are off the draughting boards, architects can block this gruesome gamble from their structures by providing Grinnell Automatic Sprinkler Fire Protection. On guard 24 hours a day . . . ready to spring into instant action without human aid or supervision . . . Grinnell Systems *stop fire at its source!*

Since 1930, Grinnell Sprinkler Systems have nipped more than 8,000 fires in the bud . . . saved thousands of lives. Perfected by the pioneers of automatic sprinklers, they represent the highest, safest development in such fire protection equipment.

Phone or write for a Grinnell engineer to help you adapt automatic sprinkler systems to both the aesthetic and utility requirements of your designs. One of Grinnell's 34 branch offices is conveniently near you. Grinnell Co., Inc., Executive Offices, Providence, R. I. Branch offices in U. S. and Canada.

GRINNELL

AUTOMATIC SPRINKLER FIRE PROTECTION

A quiet school SPEAKS FOR ITSELF

[*For noise-controlled rooms, specify ceilings of Armstrong's Corkoustic*]

LOCKPORT (N. Y.) LIBRARY has a Corkoustic ceiling in this Children's Room, to make it easier for youngsters to concentrate. Architect: Carl Schmill & Son, Buffalo. Acoustical Contractor: Hoddick & Taylor, Inc.

This corridor in North Hollywood (Cal.) Junior High School has a low-cost acoustical ceiling of Armstrong's Temcoustic applied by Downer Fiberboard Co. Architect: John C. Austin.

QUIET is an essential of the well-built school, and the best way to reduce noise is with sound-absorbing ceilings of Armstrong's Corkoustic. The special cork composition of this material quiets noisy corridors, classrooms, libraries, gymnasiums, and cafeterias. It also corrects acoustics in a school's auditorium. But that's not the only job Corkoustic does, by any means.

EASE OF CLEANING. Armstrong's Corkoustic does not tend to absorb dust and dirt along with sound. It can be easily vacuum-cleaned when necessary, however, and can be repainted without impairing its noise-quieting value.

LIGHT-REFLECTION. The pastel colors reflect light effectively, thereby helping to assure adequate illumination at minimum lighting cost.

BEAUTY. Available in a variety of attractive, factory-applied pastel colors, Corkoustic helps to beautify any school area. Specia' colors can be supplied upon order.

INSULATION. Schools which have Corkoustic ceilings have lower fuel costs, because of this material's high insulation efficiency. In warm weather it helps to keep rooms cool.

Free Booklet

See *Sweet's*—and send for your copy of file-sized booklet—"Tune Out Noise." It contains all the facts—and pictures, too. Write Armstrong Cork Co., Building Materials Division, 1245 State Street, Lancaster, Pa.

Armstrong's
ACOUSTICAL MATERIALS
CORKOUSTIC **TEMCOUSTIC**

WITH RECORD READERS

(*Continued from page 12*)

H. Barr, Jr., director of the Museum; *Catherine K. Bauer*, special USHA consultant; *Edgar Kaufmann, Jr.*, Design Editor of "New Directions"; and *Edward Stone*, New York architect.

All entries for Competition I must be mailed by January 11, 1941; Competition II entries must reach the Museum not later than January 15. Entry blanks and complete program may be obtained from *Eliot F. Noyes*, Director, Department of Industrial Design, The Museum of Modern Art, 11 W. 53 St., N. Y. C.

* * *

CASH PRIZES of $200, $100, and $50 will be awarded by the American Institute of Steel Construction to winners of first, second, and third places in the annual bridge design competition scheduled to be judged on February 19, 1941.

The competition is open to bona fide registered students of structural engineering and architecture in recognized technical schools of the United States and Possessions; this year's subject is "a steel overpass bridge to carry a single-track railroad over a highway."

Entries must be received at the Executive Offices of the American Institute of Steel Construction, 101 Park Avenue, New York City, not later than February 10. Further information may be obtained from that address.

Mentor Praises Telesis Group

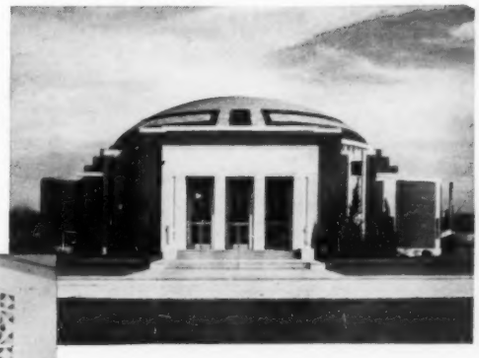
"BRILLIANT STUDENTS", says *Michael Goodman*, Professor of Architecture at the University of California, of those among the Telesis group (see pp. 69-72) who formerly were taught by him.

"These young people have achieved a union which the older groups of professionals could not effect; . . . thus banded they are selling the idea to amused and indulgent bystanders who eagerly viewed the displays."

Members of Telesis are:

Burton Cairns,* Vernon De Mars, Garrett Eckbo, Phillip E. Joseph, Francis J. Violich, Edward A. Williams, Francis Joseph McCarthy, Albert Henry Hill, Jack Kent, Corwin R. Mocine, William E. Spangle, Walter Jo Landor, Sydney Williams, Alfred Sawahata, Gryffyd Partridge, Richard Banwell, James Stamos, Milton Butts, Delevan Burge Freyer, Jane Root, Marie Harbeck, Leonore Upham, Henry Hebbeln, Ruth Jaffe, John Webb, Elizabeth Allen, Ward J. Thomas, Mary Anthony, Philippe Mutrux, Henning Watterston, Carolyn Watterston, George Kalleg, Mary Merrill, Francis Yeazell, John Anderson. (*Deceased)

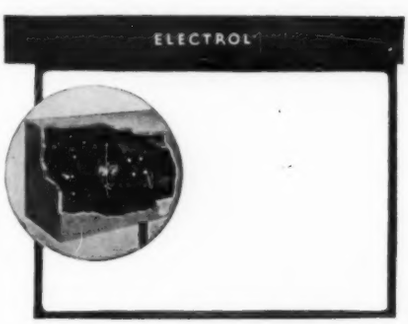
The Tulane University OF LOUISIANA



The Da-Lite Electrol Glass-Beaded screen in the new McAlister Auditorium was installed by HarFilms, Inc. of New Orleans. Architects: Favrot and Reed, New Orleans.

Chooses the DA-LITE ELECTROL SCREEN

REG. U.S. PAT. OFF.



Because of its compact proportions, with motor, gear-drive and screen housed in a case, the Da-Lite Electrol can be quickly and easily installed either from hangers or in recesses in the ceiling. Supplied with either Da-Lite's specially constructed glass-beaded surface or Da-Lite white surface, each of which has special advantages in certain applications. The 48 page Da-Lite catalog gives complete suggestions for the use of each and full instructions on the installation of the Electrol.

THE ELECTRICALLY OPERATED HANGING SCREEN

Further evidence of the superior advantages of the Da-Lite Electrol Screen is provided by the selection of this model screen for the beautiful new McAlister Auditorium of Tulane University of Louisiana, New Orleans.

Of this installation Mr. J. H. Randolph Feltus, Assistant to the President, writes—"While we have not yet had occasion to use the screen in a scheduled program, *we are highly pleased with its convenience and appearance* and are looking forward to its use when we reopen the University in the fall. *It certainly represents the last word in motion picture screens for non-commercial use.*"

Here, as in the Carnegie Institute, Pittsburgh, the Field Museum, Chicago, and other institutions where perfect projection is required, the Da-Lite Electrol provides not only brighter, clearer pictures but utmost convenience. Operated electrically by remote control, it can be quickly and easily unrolled and re-rolled. The Electrol is one of many styles in the Da-Lite line—a line famous for quality for 31 years. Write for literature.

THE DA-LITE SCREEN COMPANY, INC.

2723 NORTH CRAWFORD AVENUE · · CHICAGO, ILLINOIS

RECORD POLL IN HARTFORD: Caledonian Insurance Building Voted Outstanding

Photos from Gustavus Sickles

TEN NOMINATIONS: Home office building (United States) of the Caledonian Insurance Co. Carl J. Malmfeldt was architect for the project.

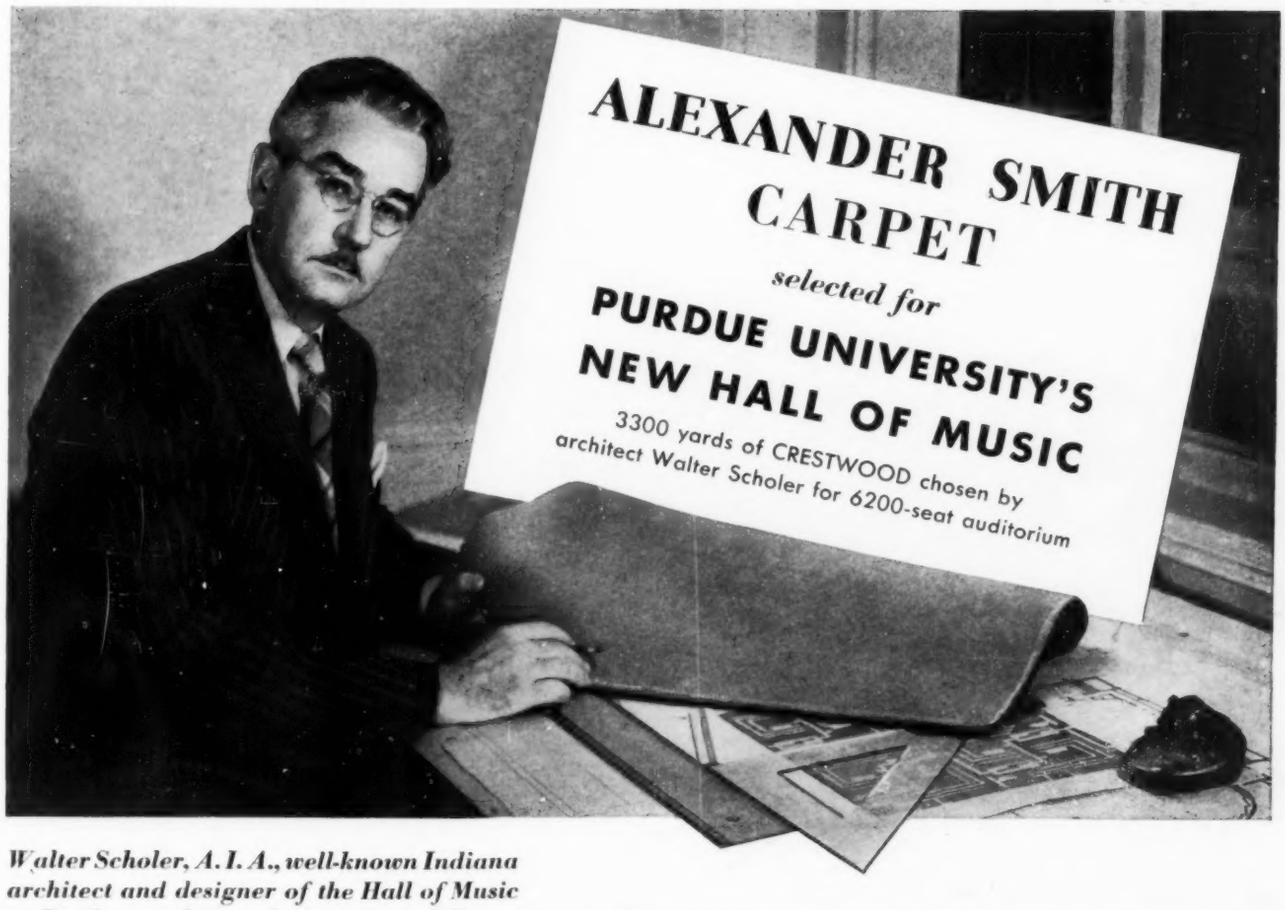
PAUSING THIS MONTH over Hartford, Conn., in the restless flight from poll to poll, we find the home office building of the Caledonian Insurance Co. highlighted by most lay-citizen nominations as the city's outstanding recent architectural achievement.

The buildings on this and the following page are pictured in order, on the basis of nominations received from the following Hartford citizens: the Rev. *Robbins W. Barstow*; *James Brewster*, State Librarian; Dr. *Morris N. Cohen*; Rabbi *A. J. Feldman*; *Max L. Goldenthal*, lawyer; *Spencer Gross*, lawyer; *Maynard T. Hazen*, banker; *George H. Hollister*, Superintendent of Parks; *Samuel Lebon*, Alderman; *George C. Lessner*, lawyer; *Robert Lewis*, editor; *Edwin F. Nelson*, Board of Education; *Walter S. Paine*, insurance; *Fletcher D. Parker*, minister; *W. H. Putnam*, executive; *Willard B. Rogers*, hotel-chain executive; *Walter K.*

(Continued on page 18)

NINE NOMINATIONS: The Dominick F. Burns School, Lawrence St. Carl J. Malmfeldt, Arch.; Strayer & Engelhardt, Consultants.

SEVEN NOMINATIONS: Pratt & Whitney plant; division of Niles-Bement-Pond Co. Albert Kahn was the architect.



Walter Scholer, A. I. A., well-known Indiana architect and designer of the Hall of Music at Purdue, evaluates the carpet as follows:

"THE carpet in the new Hall of Music at Purdue University was especially woven by the Contract Division of Alexander Smith from details prepared in my office showing pattern and colors. Their experienced craftsmanship and knowledge of carpet color and design and their close cooperation with me in this work resulted in a handsome job. I can speak highly of their services.

"In this Music Hall, particularly where beauty and utility are essential, the carpet gives color, quietness and distinction to the interior. In the immense auditorium with over 6200 occupants constantly moving in and out, we have relied on Alexander Smith to produce in their well-known Crestwood Carpet the durable floor covering for the requirements."

NEW!

FREE!

"Nearly Right Won't Do in Contract Carpets" is, we believe, the most comprehensive and helpful carpet manual ever published. For your free copy write Contract Division, Alexander Smith & Sons Carpet Co., 295 Fifth Ave., N. Y. C.

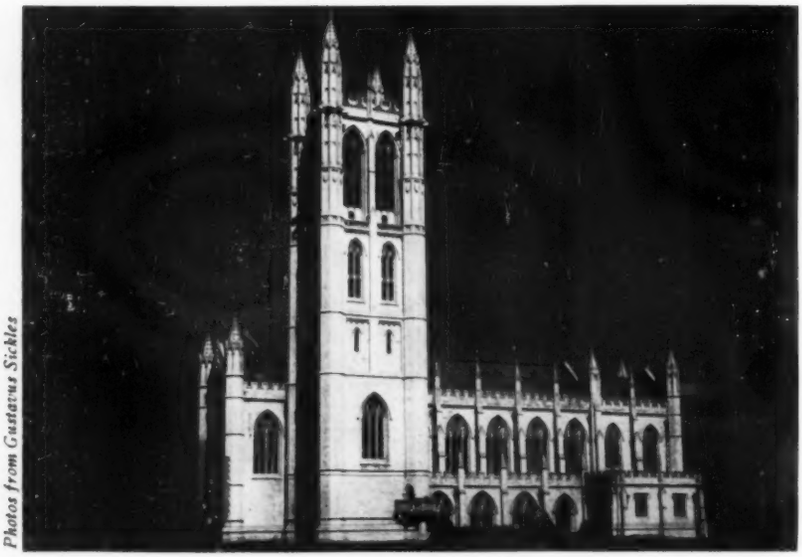
Foyer of Purdue Hall of Music showing Alexander Smith Crestwood Carpet

RECORD POLL IN HARTFORD

(Continued from page 16)

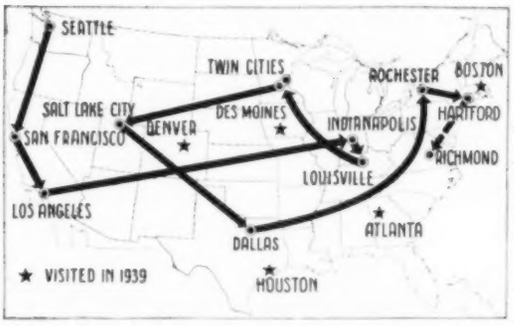
Schwinn, editorial writer; *Truman R. Temple*, librarian; *S. F. Westbrook*, insurance; *Arthur Worth*, merchant.

Other buildings receiving nominations, but less than the pictured winners, are: the County Courthouse (Paul P. Cret, Architect; Smith & Bassette, Associates); Keney Park Golf Club House (Smith & Bassette); State Police Building (Golden, Storrs & Co.); Temple Beth Israel (Charles Greco); West Hartford Town Hall (Ebbets & Frid, Archs.; Mylchreest & Reynolds, Assocs.); West Middle School (Malmfeldt, Adams & Prentice).



Photos from Gustavus Sickles

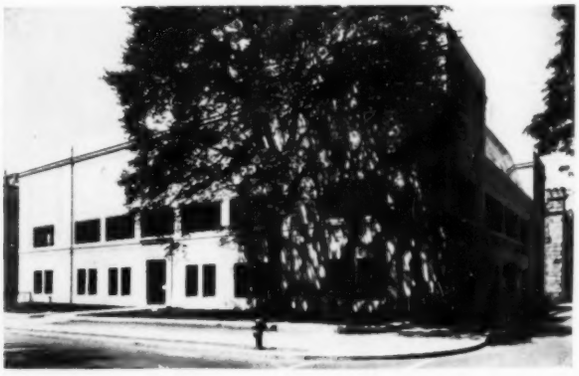
SIX NOMINATIONS: the new Chapel at Trinity College. It was designed by the architectural firm of Frohman, Robb, and Little.



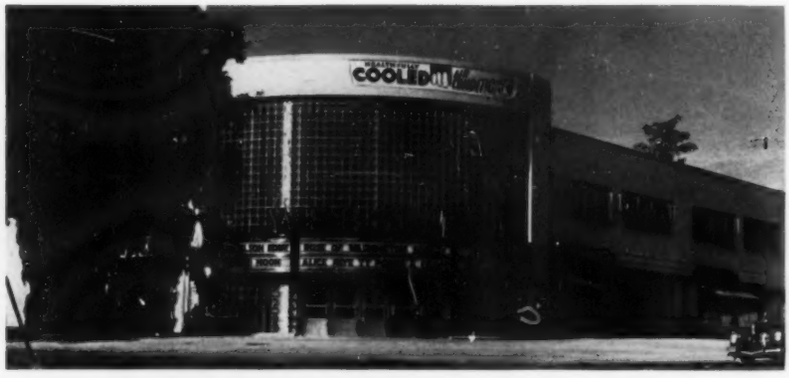
Courtesy American Map Co.

Next month the Poll will look in on Richmond, Va.

SIX NOMINATIONS: the home office building of the Aetna Life Insurance Company. James Gamble Rogers, Architect; Otto Faelten, Associate



FIVE NOMINATIONS: the Avery Memorial. Morris & O'Connor, Architects; A. E. Austin, Associate.



FOUR NOMINATIONS: the new Webster Movie Theater and Shopping Center. George Zunner was the architect for this project.

FOUR NOMINATIONS: the West Hartford Public Library; the firm of Ebbets & Frid were architects.

BEHIND THE RECORD

To those who eat up statistics we offer a few in connection with the *Development House* study on pages 29 to 94. In one way or another we've reported on 35 development projects in some 19 states that represent well over 4,000 houses ranging in cost from $4,500 to $12,000. That's pretty good for one issue, we submit, even if it doesn't cover *all* the projects of this sort in which architects have played major creative roles. At least it's enough to give more than a rough idea of what's been happening in a lot of pleasant suburbs. And if you like architectural daydreams, here's one we schemed up ourselves: If $7,000 is the average cost of these development houses—which seems a likely figure on the basis of current dope—the value of those in our reported projects add up to $21,000,0000. Furthermore, if architects got 6% for designing each one, the fees would total $1,260,000! For a statistician's example of what this last figure really means turn to page 112.

* * *

Regarding the review by Arthur C. Holden of "A Method for Analyzing the Economic Distribution of Shelter" (AR, 9/40, p. 80), John Burchard, chief collaborator in that work, writes:

In Mr. Arthur Holden's fair and intelligent review of our recent report, I find but one point on which we might disagree. Mr. Holden implies a criticism of the report in that our example did not include, in its computation of economic rent, anything for amortization. Regardless of the fact that it was but an example, I should like to defend it. The difference between us, probably, arises in whether or not we agree with Mr. Holden's sentence, "Borrowed capital must be repaid."

Theoretically, it is not essential that a loan ever be repaid. Consider the hypothetical case of a security for loan which never suffers any loss in realizable worth. This security in the hands of a lender who enjoys a fair interest return from an honest borrower might remain in the status quo for an indefinite time, to the complete satisfaction of the lender. If an individual lender requires payment of the loan for some reason, under the hypothesis above, the borrower can refinance the loan and not change his final position at all.

If "A" borrows $1,000 on such a security and does choose to amortize the loan, he has in fact saved money to the extent to which he has amortized the loan. The act of saving should be divorced from the act of home ownership. They have been too long confused.

But a house as security, unfortunately, does not have the characteristics of the above hypothesis. It does diminish in value. It is essential, then, in order that the lender be protected, that an amount be returned to him periodically which is, so far as possible, a measure of the actual depreciation in realizable worth. If this is done, the conditions of the hypothesis remain unchanged.

Now it may well be in practise that the lender will require a return of more than the depreciation. This difference is the true amortization. He may do so for the practical reason that he thinks that he may be able to reinvest the returned capital more profitably elsewhere, or merely because he is concerned with the general liquidity of his investments. Whatever the reason, it is clear that any amount which the borrower does pay back periodically in excess of the true depreciation is tantamount to a saving by the borrower.

This report is not concerned with the borrower's savings habits. It is concerned only with the *cost* of occupying a home. Our financial practices may be such that in owning a home, one must also make a saving, but it would not truly reflect the cost of occupancy if that saving were to be included. The man who owes nothing whatsoever on his home is clearly not faced with such a charge.

In any event, as the report has pointed out, one may use such values as he chooses to set up a total economic rent, and may then use the charts with his own values. If Mr. Holden wants to include an amortization figure, I would disagree with him in principle, but would argue that the fundamental relationships for his values are equally perceptible in the charts.

* * *

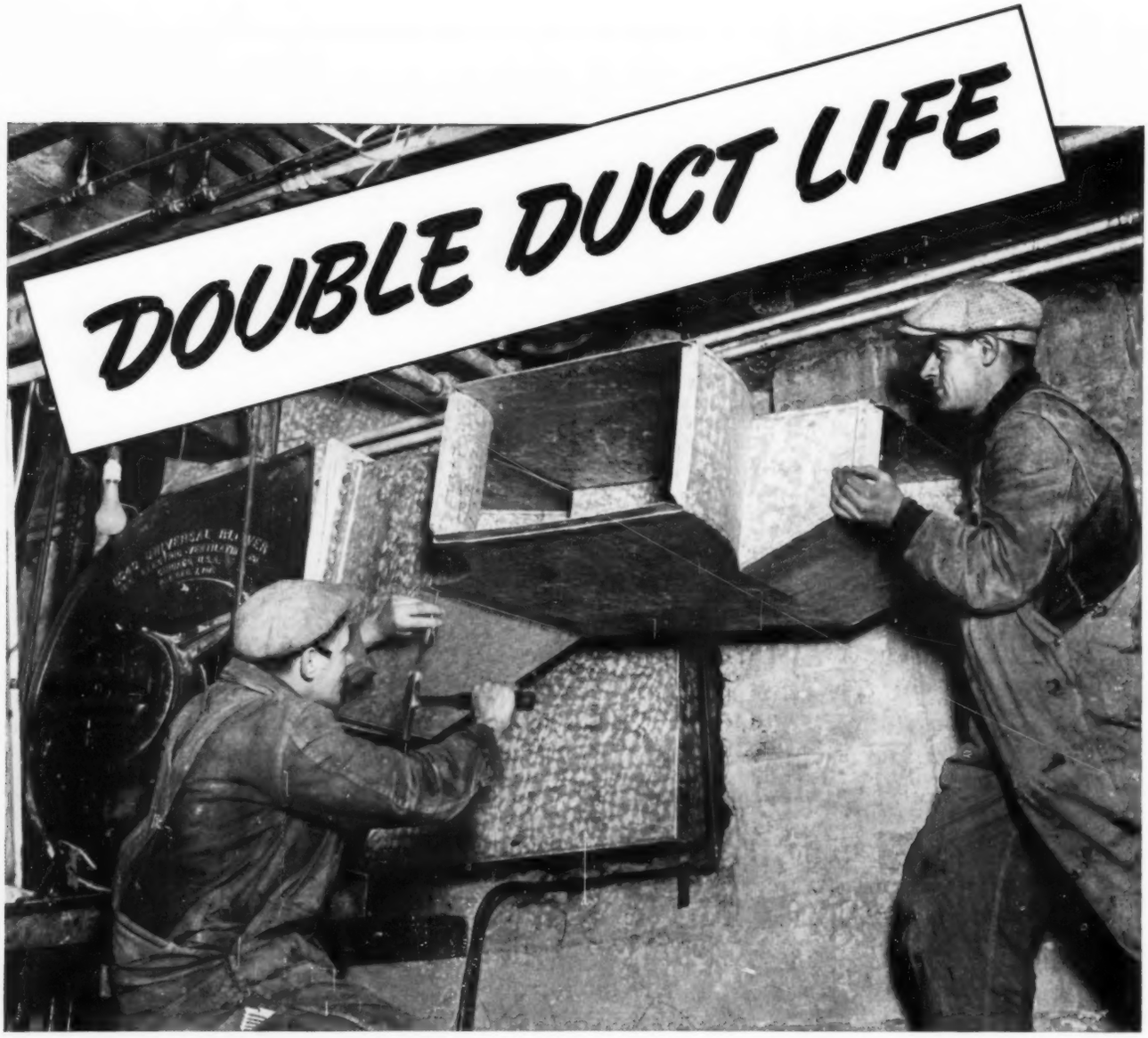
Because we all recognize the essential dependence of a good idea on skillful execution, we'd like to add a note on Robert Foster's two stainless-steel sculptures appearing in the October issue, one on page 77, the other on page 88. In each case, Mr. Foster furnished Kenneth Lynch & Son, New York City craftsmen, with cardboard models at scale, from which were produced the 25-ft. welded figures "whose cantilevered stress organization required regular engineering."

* * *

Corrections: Agnoldomenico Pica should have been cited as the author of the "three winged victories caught in a web of modern steel scaffolding" used to illustrate the article on Art Forms in Architecture, appearing last May (p. 80). . . . Samuel R. Lewis should have been credited as consulting engineer on the radiant heating system illustrated at the top of page 68 in the September issue. . . . The photo of David Smith on page 77, October, was used by courtesy of American Artist Magazine.

"Your architect just got back from London, I understand."

—Drawn for the RECORD by Alan Dunn



with Beth-Cu-Loy Galvanized Steel Sheets

Air ducts made of Beth-Cu-Loy copper-bearing galvanized steel sheets have a decidedly longer life than ducts made from ordinary open-hearth galvanized steel sheets of the same gage.

Here's why—Beth-Cu-Loy sheets have a copper content of .20 to .30 per cent—the exact ratio of steel and copper required for maximum rust resistance.

Tests conducted by the American Society for Testing Materials show that steel sheets identical in composition with Beth-Cu-Loy last from two to two and one-half times as long as open-hearth steel sheets and 20 per cent longer than copper-bearing open-hearth iron sheets. Yet Beth-Cu-Loy sheets cost but 4 or 5 per cent more—a slight increase in cost that is returned many times in longer service and reduced maintenance.

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BETHLEHEM STEEL

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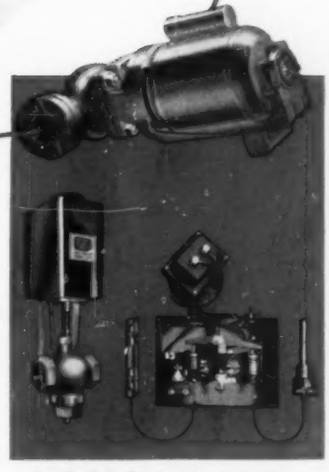
Never before have you been able to specify and *get* a heating system which so closely approaches your ideal in heating comfort . . . and at so low an operating cost! To the many advantages of forced hot water heating, Hoffman Hot Water Controls now add hair-breadth regulation of room temperature. When installed on either new or remodeled hot water heating systems, the old troubles of "Cold 70", overheating and uncomfortable variations in temperature are eliminated for good.

Hoffman Hot Water Controlled Heat combines *continuous circulation* with indoor-outdoor temperature controlling devices which effect a constant balance between heat loss and heat supply. Heat is supplied to the radiators on a gradually ascending or descending temperature scale—always matching the weather.

The three basic operating units of Hoffman Hot Water Controlled Heat are adaptable to any type of automatically fired hot water boiler. Designing the system for high B.T.U. emissions, plus *constant* maintenance of heat at exactly the right degree, permits the use of minimum size radiators. *This means easy concealment and a material saving in installation cost!* The system is ideal for indirect domestic water heating, producing an ample supply of hot water, winter and summer.

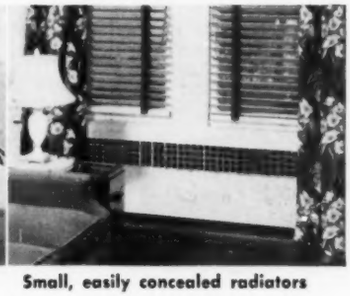


Send for literature describing fully the installation and operation of Hoffman Hot Water Controlled Heat units

No "Cold 70" or variable room temperatures

Exact balancing of heat supply against heat loss

Low cost, year around domestic hot water



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Above: Mayor Tom Miller presents key to City of Austin to Texas Society of Architects; left to right, Louis Page, George Dahl, Mayor Miller, Ralph Cameron. Left: Ralph Cameron (at right in photo), retiring Society president, converses with Charles T. Ingham, AIA secretary.

Texas Society of Architects Meets at Austin for First Annual Convention

POWERED BY ENTHUSIASM equal at the very least to the great distances many of them had to travel, 200 delegates gathered at Austin during the days of September 26, 27, and 28 for the first annual convention of the Texas Society of Architects. In the words of *George L. Dahl* of Dallas, newly elected Society president, "The Convention was a knockout . . . It exceeded all expectations . . . There was plenty of enthusiasm, great interest, and the foundation of much good was laid; there was an earnest desire to make progress." Evolved as a slogan and battle cry was: "Texas Architects, awake to your opportunities! There are greener fields ahead if we all will work and face our problems together."

Keying his subject with this progressive determination, *Charles T. Ingham* of Pittsburgh, national secretary of the AIA, spoke on "The Challenge to the Profession," declaring, in course: "If we are to project architectural services further into the home building field and displace more of the stock plan services, we must make the public aware of the comprehensive character of the services the architect is qualified to render." He also warned against the growing menace of 'architectural bureaus,' government supported, and of large construction companies organized to provide complete services including architecture.

Other topics, on which addresses were given by various members of the Texas Society, included: "Architectural Legislation of Tomorrow," by *Hugo F. Kuehne;* "Selection of an Architect," by *Hubert Hammond Crane;* "Small House Problems," by *Marvin Eickenroht;* "Business Side of Architecture," by *Harry D. Payne;* and "Ethics of the Profession," by retiring president *Ralph Cameron.* In addition, experts from various manufacturing concerns gave talks and led round-table discussions on products, processes, and practices of especial interest to architects. The manufacturers also contributed some $25,000 worth of exhibits, providing "a show equal in many respects to a miniature world's exposition," and suggesting "many possibilities . . . profitable to the architect as well as the manufacturer."

Society elections for the coming year, in addition to Mr. Dahl's as president, were: Vice President, *Harry D. Payne*, Houston; Directors, *Wiley G. Clarkson*, Fort Worth, *Bertram E. Giesecke*, Austin, *Benjamin E. Irby*, Beaumont, *Henry T. Phelps*, San Antonio, *O. L. Hazelwood*, Palestine, *Harold Walsh*, Amarillo, and *O. H. Thorman*, El Paso. *Louis C. Page* of Austin continues as secretary-treasurer pro tem.

New York State Association of Architects Holds Annual Convention at Rochester

WITH 384 PAGES of stenographic transcript attesting to the breadth, depth, and variety of proceedings at Rochester, N. Y., where some 200 delegates gathered on September 26, 27, and 28 for the third annual convention of the New York State Association of Architects, designation of any one theme or issue as the program "standout" would be flagrant over-simplification. Certainly of paramount interest, however, was the question of "Professional Unification" (involving the affiliation of state associations with the AIA), because convention time found the New York group, one of the largest and most influential of the state organizations, still among the four which have not as yet affiliated with the AIA under the program introduced last May at Louisville (see AR, 4/40, p. 12).

With *Matthew DelGaudio* presiding as chairman, the question was treated in formal addresses by *Frederick G. Frost, Frederic A. Fletcher, Sidney L. Strauss,* and *Clement R. Newkirk,* and by ques-

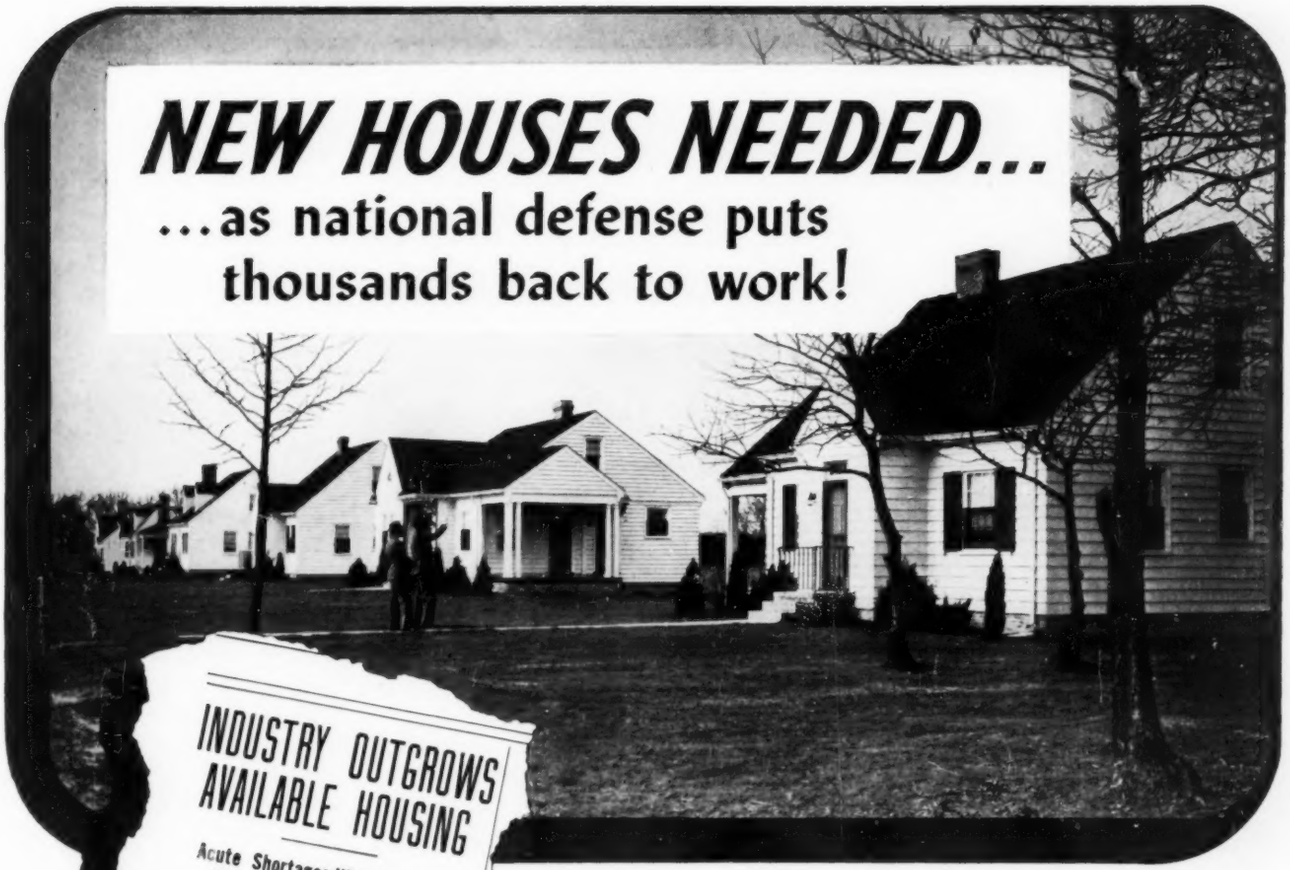
(Continued on page 12)

CALENDAR OF EVENTS

- **November 1–January 2**—"Art Finds a Way", exhibition at Brooklyn Museum, Brooklyn, N. Y.
- **November 29 and 30**—A Conference: The Expansion of Industrial Communities, with Respect to General Planning and Housing. University of Michigan, Ann Arbor.
- **December 2–7**—14th National Exposition of Power and Mechanical Engineering. Grand Central Palace, New York City.

NEW HOUSES NEEDED...

...as national defense puts thousands back to work!



INDUSTRY OUTGROWS AVAILABLE HOUSING

Acute Shortages Where Defense Program Revives Old Plants

More Problems When Plants Are Built in Strategic Localities

The basic fact about the defense program's impact on real estate is that it will take a lot of new plants and additions to step up this country's output by $10,000,000,000 a year in 70,000 items. But extensions of old factories are already cramping the dwelling facilities of dozens of U. S. cities.

At Rock Island, Ill., the arsenal expects to add 8,000 new employees, and to build approximately 800 new houses. But the National Executive Committee of Housing Authorities reported last month that prospective arsenal workers are already refusing jobs at Rock Island because they do not know where they could live.

In Hartford, Eastern airplane center, a local daily says the vacancy ratio in June was 1.2%. There were only 158 vacant tenements in Hartford, only 782 in Greater Hartford. It was then difficult to find monthly rents of $35 and under.

Five major airplane plants in Los Angeles employ 40,000, as against 19,000 last January. All of these plants are in districts which already had sharp shortages in housing.

DURING the rush to complete new housing, you men in the building industry must guard America against creating future slums or wasteful boom town shacks. For workers in new or enlarged defense plants, build *modern* housing, quickly and economically. Build comfortable, good looking but low priced houses that will uphold morale, minimize social problems and pay dividends in increased production.

For this vitally needed task, Flintkote pledges you wholehearted cooperation from distributors of its time-proved materials for new construction and rehabilitation of old dwellings. Strategically located Flintkote factories and warehouses assure prompt delivery of all types of roofing, siding, sheathing, wall board, insulation, sound deadening and waterproofing.

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Complete information is available from your nearby Flintkote branch office. Or simply airmail, wire or phone your inquiry to:

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Products of the same high quality are sold by Beckman-Dawson Roofing Company and Richardson Roofing, affiliates of The Flintkote Company.

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MODERN STEAM HEAT IN MONARCH LIFE INSURANCE BUILDING

Company's Home Office Building Uses Webster Moderator System to Assure Heating Comfort

SECURES EVEN TEMPERATURES

Controls Amount of Steam Used, Reducing Underheating and Overheating to Minimum

MEETS VARIED HEATING NEEDS

Springfield, Mass.—Steam was "turned off" when the new home office building of the Monarch Life Insurance Company was opened for community inspection on June 12, 1938.

But, starting with the first day of the 1938-39 heating season, this modern building has secured comfortable indoor temperatures regardless of outdoor weather conditions with a Webster Moderator System of Steam Heating.

Monarch Life Insurance Company Building, Springfield, Mass.

Steam for the heating of the building is provided by two oil-fired boilers.

The Webster Moderator System controls the amount of steam used so that overheating and underheating are reduced to a minimum. Offices, recreation rooms and the employees' cafeteria receive steady, even, comfortable heat.

Webster Equipment installed includes the latest type Thermostatic Radiator Traps and Radiator Supply Valves, as well as Drip Traps for main drips and for winter air conditioning equipment.

Paul D. Bemis, of Hartford, Conn., served as Consulting Engineer for the Monarch Life Insurance Company. Installation of Webster System Equipment was made by the Holyoke Valve & Hydrant Co., of Holyoke, Mass.

The building was designed by Carl J. Malmfeldt, Hartford, Conn., architect, J. G. Roy & Sons Company, of Springfield, Mass., was the general contractor.

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WITH RECORD READERS

(Continued from page 10)

tions and answers and general discussion from delegates on the floor. Mr. Frost based his plea for affiliation on the success, in achieving professional gains, of the "Joint Committee of Metropolitan Societies" (representing architectural organizations in Westchester, Long Island, and New Jersey as well as New York City) and declared, in effect: "We need the same sort of thing on a national scale." Messrs. Fletcher and Newkirk both stressed that "the first stated objective of the AIA is to organize and unite in fellowship the architects of the United States"; described benefits that this body, during its 83 years of existence, has effected for the entire profession; and argued that affiliation was the logical procedure for continued advancement of both organized fellowship and professional benefits to the greatest good and most widespread satisfaction of all American architects. Mr. Strauss, on the other hand, suggesting, as at least one possible objection, that the system of affiliate representation might be unfavorable to the New York State Association, urged further deliberation before any commitments were made. Other dissident opinions were: that the AIA was "too academic" to give vigorous leadership; that the situation (chiefly government disregard of the private practitioner) was already out of hand; and that affiliation did not offer the state association member any specific identification with the AIA—such as the right to carry initials after his name. Although a resolution to affiliate was finally moved and seconded, it failed to pass and the issue has been tabled, pending settlement in December by the Board of Directors with power.

Notable among the addresses given on other subjects before the convention was "Industrial Design, An Opportunity and Challenge," by *Albert Kahn*. For practitioners contemplating a start in this field, Mr. Kahn urged the formation of an organization capable of supplying complete engineering service, and added, "Don't forget the estimator, for the client wants to know his cost at once." He also suggested that intelligent consideration of all new materials and contractors' suggestions was a sign of the progressive architect.

On the subject of small houses, *Frederick J. Woodbridge* observed, in course: ". . . in the low-cost field the public expects to buy a house as it buys a car, a refrigerator, or a radio . . . the architect should have a variety of designs all prepared, with various alternatives and added features with their total cost to the owner at his fingertips . . . real mastery of this little house is imperative; without it we are still open to the old accusation of being an expensive luxury . . ."

Under the chairmanship of *James W. Kideney*, Association president, "Publicity and the Architect" was given authoritative treatment by *Talmage C. Hughes* (of Detroit) and *Maxwell A. Cantor*—the former urging architects ". . . to get into the news . . . Newspapers are interested in advance articles on our meetings, elections of officers, appointment of committees, honor awards, exhibitions, etc. . . . Radio stations are open to good information material . . ." *Kenneth Reid*, giving "Suggestions for a Publicity Committee," observed ". . . the work of cultivating better public relations or educating the public . . . is one of the most important things the architectural profession has to accomplish," a statement which records an overtone running throughout the entire convention. In practically all the assemblies, business sessions, symposia, round-tables, and even corridor talk, discussion sooner or later, from some aspect or another, came around to public relations—a professional preoccupation, it need scarcely be added, not wholly confined to the New York State assemblage.

Wisconsin Architects Meet at Milwaukee

SEPTEMBER 26, 27, AND 28 were dates for still another professional gathering, with the State Association of Wisconsin Architects holding their ninth annual

(Continued on page 14)

Milwaukee Journal Photo

New officers, District 7, Wisconsin Association: (l. to r.) Fred Wegner, vice-president; Walter Pollatz, director; C. L. Ames, secretary; Mark Pfaller, director; and E. J. Schrang, president

Why versatile Douglas Fir Plywood is one of today's most important design materials!

There is a grade, a size and a thickness of this "modern miracle in wood" for every use!

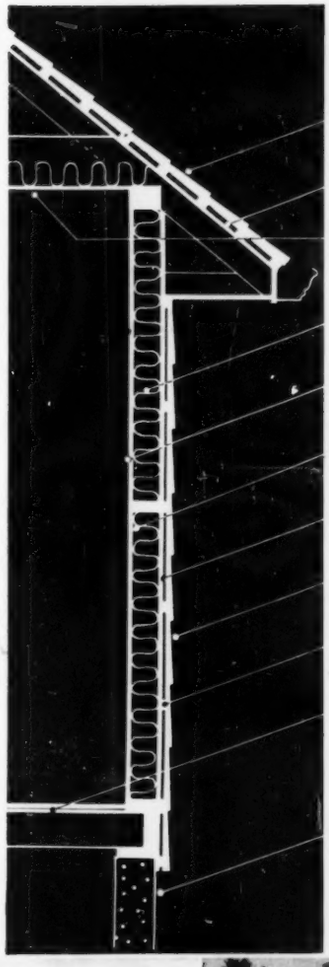
Douglas Fir Plywood's contribution to modern design is one of increasing importance. Its versatility, large sizes and great strength permit the combination of flexible planning and streamlined beauty with sounder, speedier construction. Thanks to this "modern miracle in wood," interior walls can be beautiful as well as crack and puncture-proof. Sub-floors can be squeakless as well as laid in half time. Walls can be nearly 6 times more rigid than when horizontal board sheathing is used. Concrete surfaces can be formed that are smooth and flawless. A grade or type of this engineered lumber has been developed for every building purpose. Each is stamped with a distinctive "grade trade-mark" to make specification and identification easy and simple.

dri-bilt methods are revolutionary!

Two other important developments are the Dri-Bilt with plywood methods. In the standard Dri-Bilt method, Douglas Fir Plywood replaces conventional materials for sheathing, subflooring, interior walls and ceilings, etc., and is applied by on-the-job methods. In the DFP Dri-Bilt method, wall and ceiling sections, etc., are pre-fabricated from the proper grades of Douglas Fir Plywood away from the job-site in shed or warehouse. Both methods cut weeks from building schedules. Both are accepted by FHA and approved in Uniform Building Code.

For more information, consult Sweet's Catalog or write for this free literature: Suggested Specifications for Douglas Fir Plywood; Dri-Bilt with Plywood Manuals; Finishing Booklet. Douglas Fir Plywood Association, Tacoma Building, Tacoma, Washington.

★ The diagram at right shows how the various grades of Douglas Fir Plywood should be used in home construction.



The walls of this attractive living room in Newport-Balboa, California, are 3/8" Plywall, V-joined and lightly stained. The ceiling is Plyscord, painted. This combination was used effectively throughout the entire residence. Frank Green, architect.

Plyscord is the perfect base for every type of finish floor. It goes down in half time, never warps or cups, makes floor far more rigid . . . an important factor in earthquake or high wind areas. Linoleum laid over Plyscord never shows boardmarks.

Plyform was responsible for the smooth concrete walls of Station WJSV, Wheaton, Md. James Middlebrooks, CBS engineer; Burton Corning, architect.

(Right) EXT-DFPA was used as exterior finish on the attractive Life House in Portland, Ore.

GENUINE DOUGLAS FIR PLYFORM Concrete Form Panel D.F.P.A. INSPECTED

GENUINE PLYWALL Douglas Fir Plywood WALLBOARD D.F.P.A. INSPECTED

SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"

PLYPANEL D.F.P.A.

EXT.-D.F.P.A.

GENUINE PLYSCORD SHEATHING D.F.P.A. INSPECTED

DOUGLAS FIR PLYWOOD Real Lumber MADE LARGER, LIGHTER, SPLIT-PROOF, STRONGER

SUCCESSFUL ARCHITECTS think first of L.C.S.*

YOU'RE SURE of satisfying clients *permanently* with PAYNE gas-fired house heating equipment. Product of one of the Nation's pioneers in gas heating and winter air conditioning, every style of PAYNE Furnace delivers years of reliable, economical, safe warmth—through the coldest of winters. ☆ Advanced design, attractive and space-saving. Many exclusive features.☆Styles and sizes for any kind of house from bungalow to mansion. Investigate the moderate cost and quality features of PAYNEHEAT.

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Complete information at your Dealer or Gas Company. Or write us.

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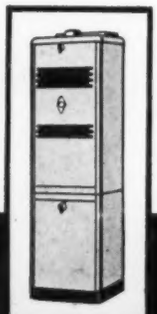
- Gravity Furnaces



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PAYNE Forced Air Unit

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WITH RECORD READERS

(Continued from page 12)

convention at Milwaukee.

A high-light feature of this event, according to *Leigh Hunt* (re-elected Association secretary-treasurer for the coming year), was an exhibition of 42 models of Wisconsin residences, recently erected at costs of from $4,000 to $10,000. The exhibit—showing "everything from the modern to Neo-Classic"—was free to the public, and architects were in attendance at all times to answer questions. "This was the first time," says Mr. Hunt, "that this form of educational publicity has been attempted by the Association. . . . Advance advertising and publicity in the newspapers contributed to the success of the show."

Other Association officers chosen for the coming year were: President (re-elected), *William F. Mickelsen* of Green Bay; first vice-president, *Edgar H. Berners* of Racine; and second vice-president, *Wallace H. Brown* of Oshkosh. Directors-at-large: *Edgar H. Berners, A. L. Seidenschwartz, Leigh Hunt, T. L. Eschweiler, William Mickelsen, Fred Raeuber,* and *John Flad.* District Directors: *Howard M. Nelson,* District 1-2; *Edward A. Wettengel,* District 3; *Gage M. Taylor,* District 4; *Wallace H. Brown,* District 5; *Allen Strang,* District 6; *Edmund J. Shrang* (see cut), District 7; and *Robert Chase,* District 8.

Recent Appointments and Recognitions

ACCORDING TO an announcement from Prof. *L. C. Dillenback,* Director, Syracuse University Department of Architecture, *Melvin L. King* of Syracuse, *William Kaelber,* Rochester, and *L. Andrew Reinhard* of New York City have been appointed to the Co-operating Committee of Architects, established in 1936 "for the purpose of affecting a liason between the academic and professional fields". Other members of the committee are: *Ernest Barett,* Montreal; *Louis J. Gill,* San Diego, Calif.; *Paul Hueber,* Syracuse; *Lorimer Rich,* New York City; and *Conway L. Todd,* Rochester.

* * *

ALPHA RHO CHI, the national social fraternity limiting its membership to students of architecture and the allied arts, has awarded its bronze Medal for Leadership, Service, and Merit to the following graduates from architectural schools recognized by the American Institute of Architects: *Albert Arneson,* University of Minnesota; *Charles Evans Hughes, III,* Harvard University; *James Bowden Addy,* Georgia School of Technology; *John H. Farrens,* University of Michigan; *Manuel Morris,* Kansas State College; *Rolland Orval Simpson,* University of Washington; *John Garth York,* University of Texas; *Thomas Shelton Jones,* Columbia University; *Charles S. Ash,* University of Kansas; *J. Lee Thorne,* Pennsylvania State College; *J. Herbert Brownell,* University of California; *Lawrence M. Pleasant,* Ohio State University; *John Blossom Thomas,* Syracuse University; *Robert Charles Taylor,* University of Illinois; *Leif Eric Olsen,* University of Illinois; *John Phillip Hamill,* Alabama Polytechnic Institute; *Charles Gordon Lee,* University of Pennsylvania; *Tallie B. Maule,* Oklahoma A. & M. College; *Kenneth M. Schaefer,* Washington University; *Ieoh Ming Pei,* Massachusetts Institute of Technology; *Herbert Francis Heidt,* Carnegie Institute of Technology; *T. Freeland Sims,* U. of Southern Calif.

New Address

THE RECORD publishes changed and new addresses only on submission, making no attempt to keep a day-by-day account. The only organization in the country with facilities for doing this is **Sweet's Catalog Service**, whose painstakingly maintained list undergoes an average revision of 23 changes for every working day in the year. Below are the new addresses recently brought to our attention:

O. J. Bruer, Architect, has opened new offices at 817 Washington Ave., Montebello, Calif. . . . *Buckley, Arango & Lyons,* Architects and Engineers, announce the opening of an office at 930 Barr Bldg., Washington, D. C. . . . *Pier L. Cherici,* Architect, has moved his office to 50 Court St., Brooklyn, N. Y. . . . Offices of the new firm, *Lucien Minor Dent,* Architect—*A. L. Aydelott,* Associate, are at 801-2 First National Bank Bldg., Memphis, Tenn. . . . *J. H. Eagen,* AIA, has opened an office at 303 Chamber of Commerce Bldg., McKeesport, Pa. . . . The new offices of *Winston Elting, Theodore Lamb,* and *Paul Schweikher,* Architects and Industrial Designers, are at 152 East Ontario St., Chicago . . . *Raymond Harry Ervin,* Architect, has moved his offices to Suite 220-1 Security Bldg., Denver, Colo. . . . *Raymond K. Knox,* Architect, has opened an office at 1005 E. Washington St., Pittsfield, Ill. . . . *E. Dean Parmalee,* Architect, has moved his office to 1308 Congress Bldg., Miami, Fla. . . . *Harold P. Zoller, Fritz Muller,* and *John J. McNamara,* Architects, are now at 51 East 42nd St., New York City.

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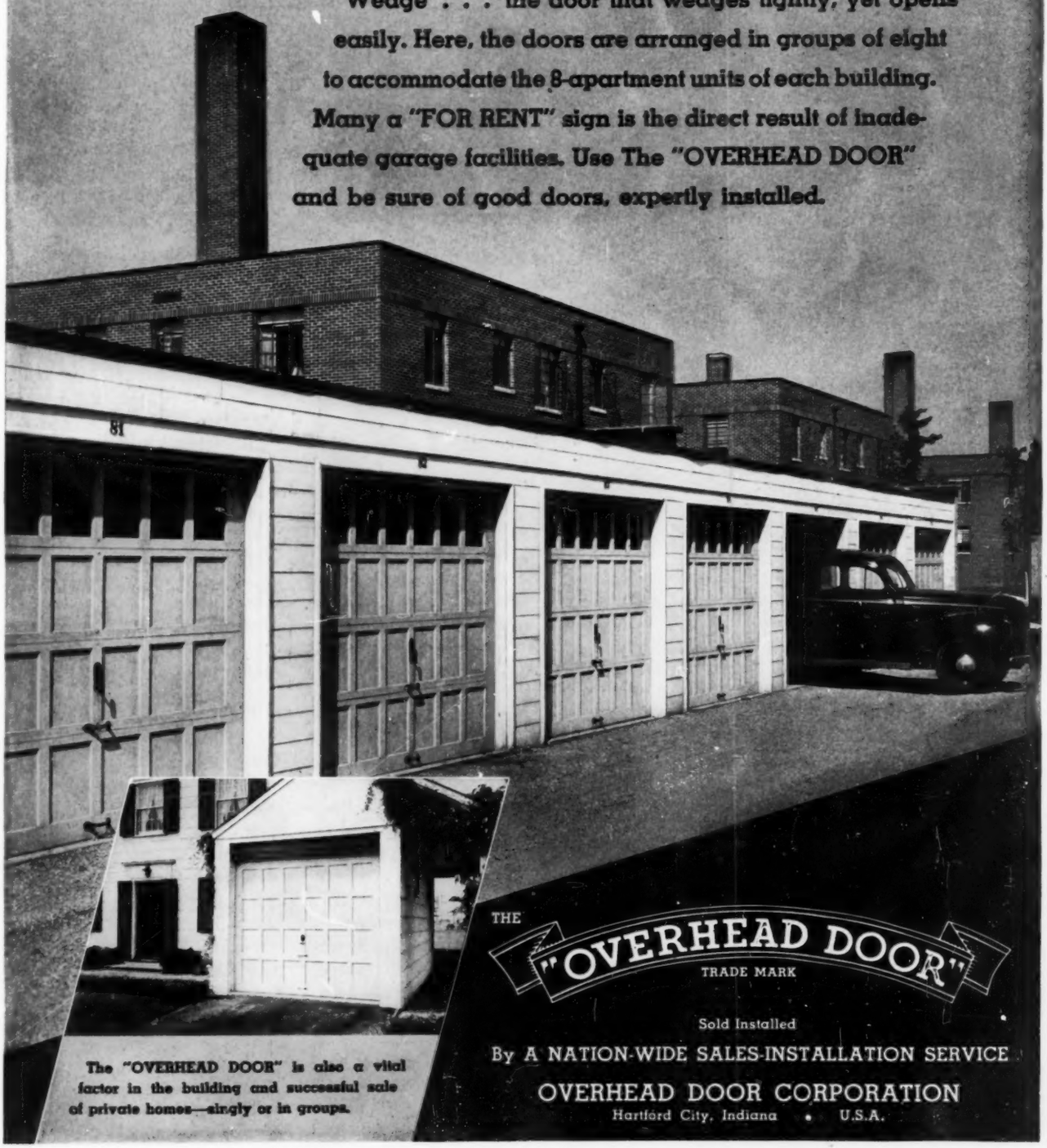

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NEWS FROM WASHINGTON ON DEFENSE HOUSING

200,000 units needed, at cost of $700,000,000; $290,000,000 so far available; but work allocation and controlling agencies still undecided —By Kendall K. Hoyt

IN THE RUSH of pre-election law making last month, Congress passed several important bills which begin to set the course of the large housing programs which must be expedited to serve the needs of national defense. Much confusion still exists as to how the program will be handled in Washington and what it will mean to the architectural profession. But here is the outline of the situation which should begin to clarify within the next fortnight or two.

Of first interest to architects is the recently enacted Lanham Bill authorizing $150,000,000 for housing which cannot be provided by private enterprise and is to be built by Federal agencies other than the Army and Navy. Half of the money has been appropriated and the other half provided in contract authorizations for which Congress will supply funds later if necessary.

The Army and Navy were given $100,000,000 in the Second Supplemental National Defense Appropriation, of which $95,000,000 has been allotted for 13,900 Army, 12,640 Navy, and 700 Maritime Commission dwelling units. Also appropriated was $338,000,000 largely for Army barracks to take care of the conscripts called in the draft, and outside the architects' field of interest.

Then there is another $50,000,000 through RFC allocation of $10,000,000 for equity capital, which can be supplemented by $40,000,000 in FHA mortgages. This was designed to speed work where the need to house defense workers has become most acute.

On top of that, USHA has put out its remaining capital on projects recommended by the Army and Navy, and has shot its bolt unless or until it gets more funds. Since July 25th, it has lent $24,000,000 to 17 local housing authorities for 21 projects totaling 6,408 units, and has allocated $7,000,000 for 4 additional projects comprising 1,725 units.

Mix the above ingredients and stir into them a set of highly individualistic government housing agencies plus a coordinator or two, and you have the national defense program now on the fire.

200,000 dwelling units

The need, as estimated by the Housing Coordinator of the National Defense Advisory Commission, is in the range of 160,000 to 200,000 units at an outside cost of $700,000,000, assuming an average of $3,500 per dwelling.

Funds thus far in sight total only $290,000,000—$100,000,000 for Army and Navy; $50,000,000, RFC; and $150,000,000, Lanham Bill; minus the RFC nest egg of $10,000,00 which has to be repaid to the canny Mr. Jesse Jones.

That means that nearly 60% of the program has to come either from privately financed construction or further Federal appropriations, or both. Probably both, although everything possible will be done to stimulate building through the usual home-building media where it will do the most good in meeting national-defense situations.

Which agency controls?

One perplexity, however, is where the work will center in Washington. Traditionally, the several housing agencies have fought like Kilkenny cats without being able to eat each other up. All, of course, are shouldering for position in the defense activities which are the focus of everything in Washington.

So far, the Public Buildings Administration of the Federal Works Agency has the edge. Out of the first $100,000,000 of the Army and Navy housing funds, PBA was given nearly $46,000,000 for a minimum of 13,000 dwelling units. Of the 70 projects designated to date, Ft. Knox, Ky., is the biggest, with 700 units underway.

Rival housers will tell you that PBA, formerly known as the Procurement Division and, before that, as the Supervising Architect's Office of the Treasury, has specialized in large, uncomfortable buildings such as post offices and courthouses. There has been some shaking of heads over the designation of this agency to build dwellings. But the start has been made and PBA is on its mettle to prove its versatility.

Lanham Bill money—

It is possible that PBA will get some of the Lanham Bill money. Procedure is being worked out and may be announced before this report appears.

When needs are made known to the Defense Commission and a housing shortage is found, the President may release funds from the $150,000,000 to the appropriate Federal agencies, for Federally-owned projects.

On the work that PBA now has, contractors may write to the Supervising Engineer for contractors' qualification questionnaires. Work will be done at cost plus fixed fee based on estimated costs. But this is for general contracting work and it is still an unanswered question how the independent architect can fit in.

U. S. Housing Authority

Where the USHA comes in is a subject on which we can give you much gossip but few, if any, facts. It is well enough known that the Authority, not to mention Administrator Straus, is not quite popular on Capitol Hill.

Thus the bill which the Senate approved last year, to provide a second $800,000,000 in lending power, has been pigeonholed all this session in the House. A group of Congressmen tried from time to time to revise the bill by cutting the sum in half and by placing more of the burden on the localities. Even the desire of members for new projects in their districts before election was insufficient to overcome the prejudice in the House against this measure.

Rumors have been frequent that a possible merger, or at least a change in heads and an internal shake-up, is in store for USHA. But the administration customarily holds back from changes until after elections are over. Should Willkie be elected, which is contrary to opinion poll findings current as this is written, the whole housing picture is more than likely to be changed. Economy-minded Republicans and conservative Democrats have frequently advocated a general merger among the agencies, far beyond their relocation in the last year's executive order.

With Roosevelt re-elected, there is room for doubt that anything so drastic will be undertaken nor is there any posi-

(Continued on page 18)

Five FITZGIBBONS *Steel Boilers will heat*

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NEWS FROM WASHINGTON

(Continued from page 16)

tive indication that he will use the reorganization powers which he still has for the balance of the year. It is known that Roosevelt favors the slum-clearance idea. It is to be expected that he will want to go on with it in some form. But the whole question is an "iffy" one at this writing.

USHA may still be in the defense-housing picture to some extent. In any event, it is worth bearing in mind that the local housing authorities which USHA has helped organize are likely to play an important part in decentralized phases of the program and may well be kept in touch with by architects.

Defense-housing coordinator

In the midst of this still rather confused picture, the staff of C. F. Palmer, Defense Housing Coordinator, is seeking to determine what the need is, what are its characteristics, where, for whom, at what rents, and when.

Queries are coming in, largely through Army and Navy channels, as to local situations. Some 200 industrial locations where housing is likely to be needed are on file. These sites are widely scattered through the country, territories, and possessions but, of course, tend to center in the main industrial regions.

The Defense Commission will largely determine which jobs are to be undertaken by Federal capital and which are to be left to private initiative. In the latter cases, the intention is to protect private builders against competitive government projects.

FHA insurance of mortgages will figure in the defense projects as in any other private housing developments. FHA work is running 40% to 50% ahead of last year. The total volume of all types of residential construction is thought likely to run close to $600,000,000 for 1940 as compared with $461,000,000 in 1939. But it is not possible to judge how much of this has resulted from the anticipation of defense housing needs.

The general theory is that private construction can be encouraged in cities where new units can be absorbed. But for isolated plants, Federal work is likely to be necessary. Private builders would run the risk of being left with "ghost towns" on their hands after the emergency is over.

As the situation is seen by Miles L. Colean, Research Director of the Housing Survey for the 20th Century Fund:

"The key to the defense problem lies in the various ways that migration, and particularly temporary migration, may affect the housing situation in a community. The solution will lie in the various measures that may be taken to adapt the community to the migration imposed upon it.

"There are some things we hope to avoid. Most of all, we want to avoid so concentrating defense activities in limited areas that any chance of a satisfactory solution becomes impossible. We want to avoid, even for short periods of time, crowding people into inadequate and unsanitary dwellings. The risks of epidemic and industrial slowdown are too great. We want to avoid a heritage of temporary housing for future slums and, at the same time, we want to avoid an excess of housing to be wasted or destroyed after the emergency has passed."

Mr. Colean pointed out that the program is starting with the advantage of having an up ing behind it plus a disposition on the part of officials to plan ahead and not let shortages occur as in the last war. But he stressed the need for local action in anticipating local needs and getting a head start.

What about the architects?

Officials at least admit the theory that the more outside architects come into the work, the better the local problems can be met and the national problem solved. Decentralization of the program is favored in theory.

But it is still a serious question how much of the work will be done by squads right and left over the drawing boards in Washington, and how much by private consultants in their own home towns.

So far as the Army and Navy posts are concerned, there is little field for private work. PBA has been preparing plans of various types of officers' quarters, barracks, and the like. When one type is drawn in the Washington office, duplicate plans and specifications can be sent around the country to the various sites.

There is still hope for some work under the Lanham Bill money. To this end, officials have been seen by a group representing the three design professions most interested. The rounds have been made by Edwin Bergstrom, President of the American Institute of Architects, who is spending full time in Washington; A. D. Taylor, President of the American Society of Landscape Architects; and Walter E. Jessup, Field Secretary of the American Society of Civil Engineers.

This group was received at PBA about October 10 and granted a friendly hearing. But a week later they were not received on grounds that the money has not been allocated among agencies and plans can not be made until then. So we can tell you nothing definite until next month when we hope that the decisions will be made with the due recognition for private consultants which is being sought.

VACANCY SURVEY REVEALS HOUSING SHORTAGES IMMINENT

Shelter redistribution vital to speed defense program; "clearing-house committees" suggested to help provide new shelter where needed —By J. R. Von Sternberg

WHERE IS NEW housing most needed? This is a question that has suddenly become a national problem, of vital concern to the government which must maintain its defense program with the least waste effort; to the public which will have to compete for rapidly diminishing available quarters; and to the building industry, on whose shoulders the job of supplying sufficient new living space now falls.

Most recent answer—and admittedly a partial one only—has just been submitted by the Bureau of the Census. Based on preliminary counts of the 1940 Housing Census, of occupied and vacant dwelling units in 357 cities of 25,000 inhabitants or more as of April 1, it shows an average percentage of vacancy

(Continued on page 112)

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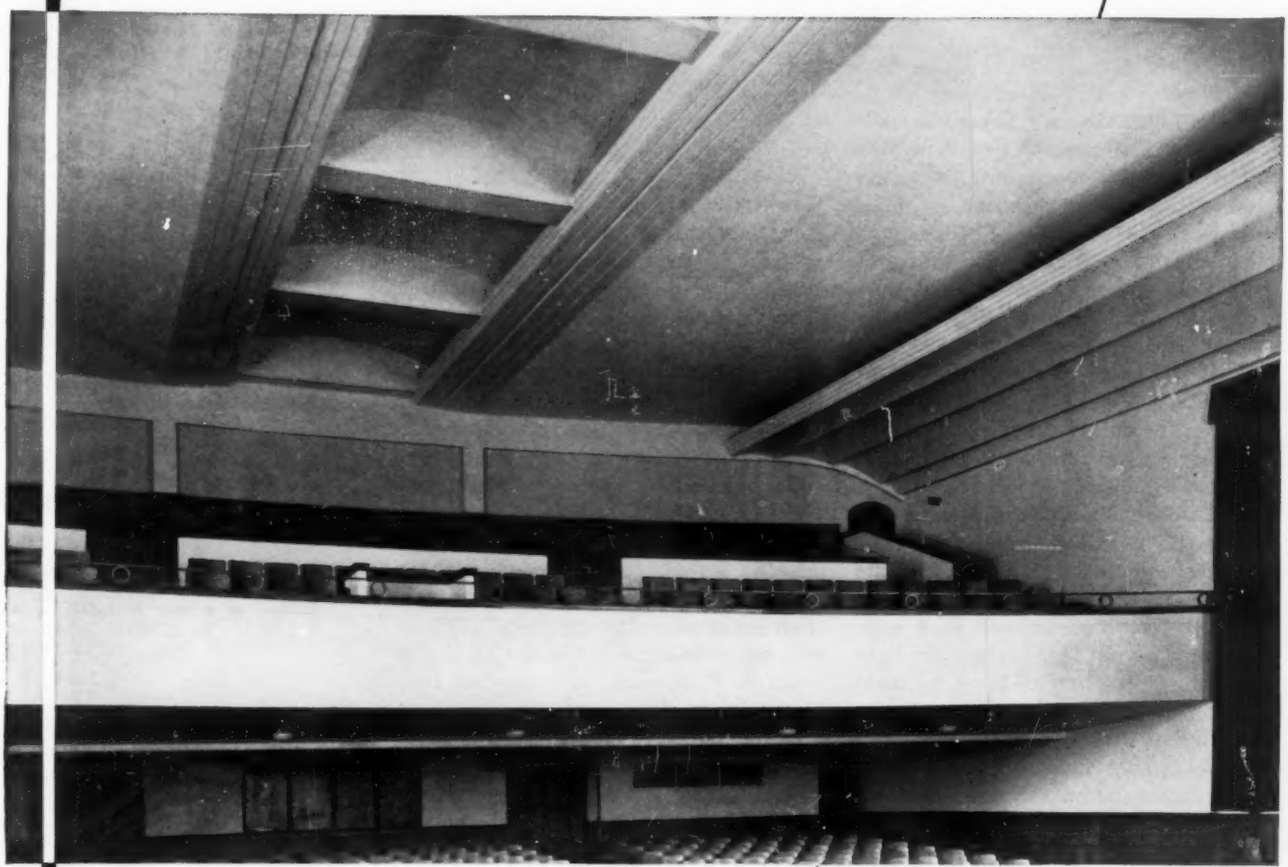

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For complete details on Permacoustic and on the complete line of J-M Sound-Control Materials, see Sweet's Catalog or write for brochure AC-26A. Johns-Manville, 22 East 40th Street, New York, N.Y.

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REVIEWS OF CURRENT LITERATURE

By Elisabeth Coit, AIA

OLD VERMONT HOUSES: The Architecture of a Resourceful People. By Herbert Wheaton Congdon. Brattleboro, Stephen Daye Press, 1940. 190 pp., 6¾ by 10 in., illustrated (124 photos). $3.00

THE OUTCOME of another assignment, "Old Vermont Houses" has all the advantages of works which have had time and opportunity to mature. For the author, who is both architect and photographer, tells us he was first commissioned to photograph Vermont's old buildings for the Old Buildings Project planned by the Robert Hull Fleming Museum, and to "secure historical data and such tales of former occupants as might exist."

A good acquaintance with State social history and the local character provided preparation for contacts leading to pertinent information supplied by residents and neighbors about "monuments" visited and suggestions about others one or two—or fifty—miles away. Many items were omitted because they were photographed on a day when the light was poor; also a few of those included are—presumably for the same reason—not quite sharp. But the majority of the photographs illustrate clearly some matter explained on the same page, or a nearby one. Also where infrequent cross-searching, so to speak, is necessary, it seems worth the search. Add to that, a clear index of essentials and a brief definition of terms used, and the whole makes it easy, even pleasant, for the reader to inform himself about points missed on first reading.

Notwithstanding the importance of photographic documentation regarding items too often reported to the outside world only by the enthusiastic outlanders, one of the lasting delights of this book is the text. Here, a few lines as to the bearing on the local architecture of national and family history; there, three score words of explanation for the layman on both rubble and random ashlar in stone laying. Now, a chapter on frame houses; then, a couple on those in brick or stone, all the while accompanied by thumbnail sketches in prose of how, mechanically and socially, it happened that way. Then come a dozen beautiful or otherwise interesting doorways, and chapters on public, semi-public, and community buildings: a courthouse, a meeting house, a tavern—several of the latter types are delightfully presented.

TESSINER HEFT. Special number of Das Werk. Edited by members of the BSA (Bund Schweizer Architekten) in the canton of Ticino. Zurich, May, 1940. Volume No. 5. Illustrated

ITS SITUATION on the line of travel from Switzerland into Italy via the St. Gotthard, the recent prominence of Locarno, the scenery of the so-called Italian lakes, and the recreational opportunities of the region have contributed to make of the Ticino a territory probably better known to Americans and other outlanders than almost any other of equal population.

On that account, therefore, this volume, illustrated with pen, sepia, and crayon drawings, with woodcuts, frescoes, oil paintings, and many photographs, is particularly welcome. It shows the intimate village home of the agriculturalist who, like the French farmer, lives in close contact with his fellow men in villages, as distinguished from the northern farmer who lives in isolation on the acres he farms. The development of that home is shown from the primitive, all stone, almost cubical hut of one story through the two-storied cottage, partially or entirely stuccoed, with outside cantilevered stairway, to the more extensive and more comfortable house with a balcony running the full length of the sunny side—not for pleasure alone, but to help in the drying of maize and herbs. The chapters in this section well support the observation that the traveler in pursuit of culture wastes much time if he does not understand the close bond between the Italianate people and their land—Virgil's land, still intensively cultivated; the Georgics describe today's agriculture and spirit better than does Baedeker.

Contemporary building here, as elsewhere, is influenced by ease of transportation and the accompanying prevalence of ill-digested ideas, with the result that the countryside begins to be dotted with diminutive castles, villas, and other alien construction. The subdivision has also arrived—houses on lots too small to allow for a true garden; houses foreign in design and construction; houses, in fact, which are in that canton not homelike. Samples of recent construction show, nevertheless, that modern buildings well fit their sites, whether rural or urban, and are in harmony with the older buildings, a state of affairs not astonishing in a canton boasting Max Haefeli as one of its citizens.

CURRENT PERIODICAL LITERATURE

Architects and the National Defense Program. By Edwin Bergstrom, Washington, D. C., 1940. 10 pp. (reprinted from the Octagon, July-Aug., 1940)

Defense Housing Moves Around and Ahead. National Association of Housing Officials News, Chicago, Aug. 30, 1940, pp. 57-9

Defense Program Starts Fourth Month. Constructor, Washington, D. C., Sept., 1940

Federal Housing of War Industry Workers, 1917-18. Monthly Labor Review, Washington, D. C., July, 1940, pp. 5-12

Program of Public Housing in the U. S. By Margaret H. Schoenfield, Same, pp. 267-282

CONCISE CLEAR ACCOUNTS of pending legislation, work under way, plans for co-operation by various public and other bodies. The article in the Monthly Labor Review for July interestingly shows extent of World War housing and disposal of Federal housing after the war, while the August article sums up Federal housing of the past seven years, clarifying role and extent of activities of the various public agencies.

Chicagoans Develop a New Trick in Building Row Houses. Business Week, New York, Sept. 14, 1940, p. 20, illustrations, plan

TWO CHICAGO ARCHITECTS have designed what is described as a money-saving house design. One long cellar is dug the length of a city block and, front and back, concrete foundations are poured the full length. Cross walls of concrete-block masonry are then constructed. The houses stand 9 ft. apart, but the cellars of each pair are extended so that they have a cross wall in common. The great success in selling the 14 experimental houses is attributed to the extra basement space. The part extending beyond the superstructure is used for storage or laundry, while the part within the house walls is available

(Continued on page 118)

BEHIND THE RECORD

What to do about air raids may become the subject of a new and hysterical parlor game unless we all hold on to ourselves. The latest query we've received about ARP—air-raid precautions to you—comes from Tucson, Arizona:

"I am anxious to persuade the local town planning organization to put up municipal air-raid shelters and also in having some private shelters for schools, hotels, and individuals. Architects and engineers haven't the necessary information to go about it.

"Would you please send me what technical information you have and could you also have articles about air-raid shelters in your magazine, as it is a problem that should be taken up all over the country before it is too late?

"Do you think it would be possible to deflect Federal grants from road building to this much more important war defense measure? This would mean that funds would be available for it practically at once."

We answered in what we hope was a reassuring manner. Of course, no one is blind to the *possibility* of alien wings over America. But we've been checking on the *probabilities* of air raids—with military technicians and other kinds of engineers who ought to know—and we've gotten the impression that development of ARP on any nationwide scale would not only be economically prohibitive right now but technically premature and therefore unnecessarily alarmist.

The question's being diligently studied, of course. A committee of the National Research Council on "Passive Protection Against Bombing" is doing a lot of quiet fact-finding. Some schools—notably Pratt Institute in New York—are now offering courses on ARP technicalities: at least one architectural organization—the Boston chapter of the AIA—is preparing plans for air-raid shelters; and the USHA is now studying—with the usual fanfare of publicity—the suitability of concrete "pill boxes" for protection of public housing tenants. Yes, and in East Orange, N. J., Odd Albert, assistant professor of structural engineering at Newark College of Engineering, has designed what he calls "bompus-rumpus rooms" for basements of private homes—a set-up, he says, that would permit American family life to flow on beneath the ruins.

Technically, nobody seems to know quite how ARP ought to be, or realistically *could* be, handled in this country. Measures in Europe, it appears, haven't been uniformly satisfactory. One part of our own research job seems to be to devise stronger protection from heavier missiles—and that's got to be done before anybody can decide where ARP shelters should be located or how many of them ought to be provided.

What are *your* thoughts on ARP for America?

* * *

Look for the 1940 index in the January RECORD. We had cooked up a scheme to get it in December but it seems we were all wrong. In libraries all over the country they're used to see indexes for *this* volume in the *next* volume—don't ask us why! And we were also wrong about compiling it on a yearly basis. Apparently it doesn't make things simpler, as we thought it would, but in some obscure way just mixes everybody up. So we've reformed. For 1941 there'll be *two* indexes: For the first six months we'll put one in the July 1941 issue; and you can turn to the January 1942 issue for the index of 1941's last six months.

The architects of the Brazilian Press Assocation (ABI) Building in Rio de Janeiro—see page 74 et seq.—are young, and are as remarkable professionally as their building is architecturally. Marcelo Roberto is 32. He graduated from Rio's School of Fine Arts in 1930, and now holds the chair of "Urbanisme" at the Brazilian Federal District University in Rio de Janeiro.

Milton Roberto is 26 and graduated from the same School of Fine Arts in 1934. It was Milton who won first prize in ABI's competition for the design of its new office building. A year after this award, the brothers Roberto won another: first in the competition for the main building at Rio's Santos Dumont Airport. Two years ago they won two more: the Brazilian Industrial Retirement Pension Mutual, and the Brazilian Anti-Tuberculosis Society's new buildings.

Their atelier is a family affair. In addition to a staff of 17 assistants, the youngest Roberto—Mauricio, 19, now an architectural student—collaborates

(Continued on page 10)

"And I want it wrapped as a gift."

—Drawn for the RECORD by Alan Dunn

Model of New York City's new Criminal Courts and Prison Building.
Harvey Wiley Corbett and Charles B. Meyers, Architects.

"The true Administration of Justice is the firmest pillar of good Government"

. . George Washington

RAPIDLY nearing completion, New York City's Criminal Courts and Prison Building (designed and constructed under the supervision of the Dept. of Public Works, Irving V. A. Huie, Commissioner) promises to be one of the city's most interesting and impressive structures. Designed to give the utmost in utility, its beauty is noteworthy in every detail.

Typical of the materials employed here are the 3,200 Aluminum windows in the Criminal Courts Building. There for a lifetime of service, they are unexcelled in appearance, provide a maximum of glass area, remarkably easy to open and close, permanently weather-tight.

And, in this and the adjoining Prison Building, Aluminum window subframes, mullions and louvres are used. 2,115 cast Aluminum spandrels grace the exterior. Aluminum handrails, stair treads and nosings, ornamental trim, lighting fixtures and many Aluminum doors dress up the interior.

ALUMINUM COMPANY OF AMERICA,
2167 Gulf Building, Pittsburgh, Pennsylvania.

Architect's drawing superimposed on street scene to show how finished building will actually appear.

Showing how construction had progressed on September 13, 1940.

ALCOA ALUMINUM

(Continued from page 7)

with his brothers; and their sister, Marguerite — permanently intrigued, perhaps, by the shop talk of her brothers —acts as their secretary.

Perhaps their youth gave Marcelo and Milton courage to startle ultra-conservative Rio—a city of lush gardens, avenues of palms, mosaic sidewalks, and colonnaded, corniced, Renaissance-palatial architecture—with the ABI Building. Whatever may have influenced the design of this building, our Brazilian correspondent, Frank Arnau, writes that ". . . its originality of conception . . . caused, during construction, a wave of debate. . . ." He adds that the building has since met with "unrestricted approval, and has been taken as model for several recent buildings."

* * *

Here's a real chance for you thumbnail sketchers! We answered the telephone the other day to hear a sweet young voice from *PM*, New York's newest newspaper, ask if any comprehensive plan for rebuilding London had been completed. We gasped a bit and said we didn't know of any. "Well," the voice said, "I suppose it *is* a bit early. But I just thought I'd find out for sure!"

* * *

F. V. Altvater of Duke University, Durham, N. C., advises that he has "a quantity of heart pine boards from 9 to 22 in. in width which came from a house approximately 200 years old." Mr. Altvater invites correspondence from any readers who may be interested in their disposal.

* * *

The design of the Oregon garden which was published on p. 84 of the October issue should have been credited to John Yeon, Designer, of Portland.

* * *

Building-outlook flash! Increased volumes in all classifications of construction, except religious buildings, are forecast for 1941, according to estimate figures released by the F. W. Dodge Statistical and Research Division. Gains forecast range from 6 to 112% or an average of 14% for total construction over the estimate made for the 1940 construction volume.

On that basis is looks as if architects would be busier than ever next year. We'll give you more detailed dope in the January issue; and this statistical morsel was squeezed under our December issue deadline merely to provide an extra, anticipatory glow to your Christmas holidays. So, Merry Christmas from all of us.—The Editors.

WITH RECORD READERS

Owners and Architects Get Certificates of Merit for Small-House Design

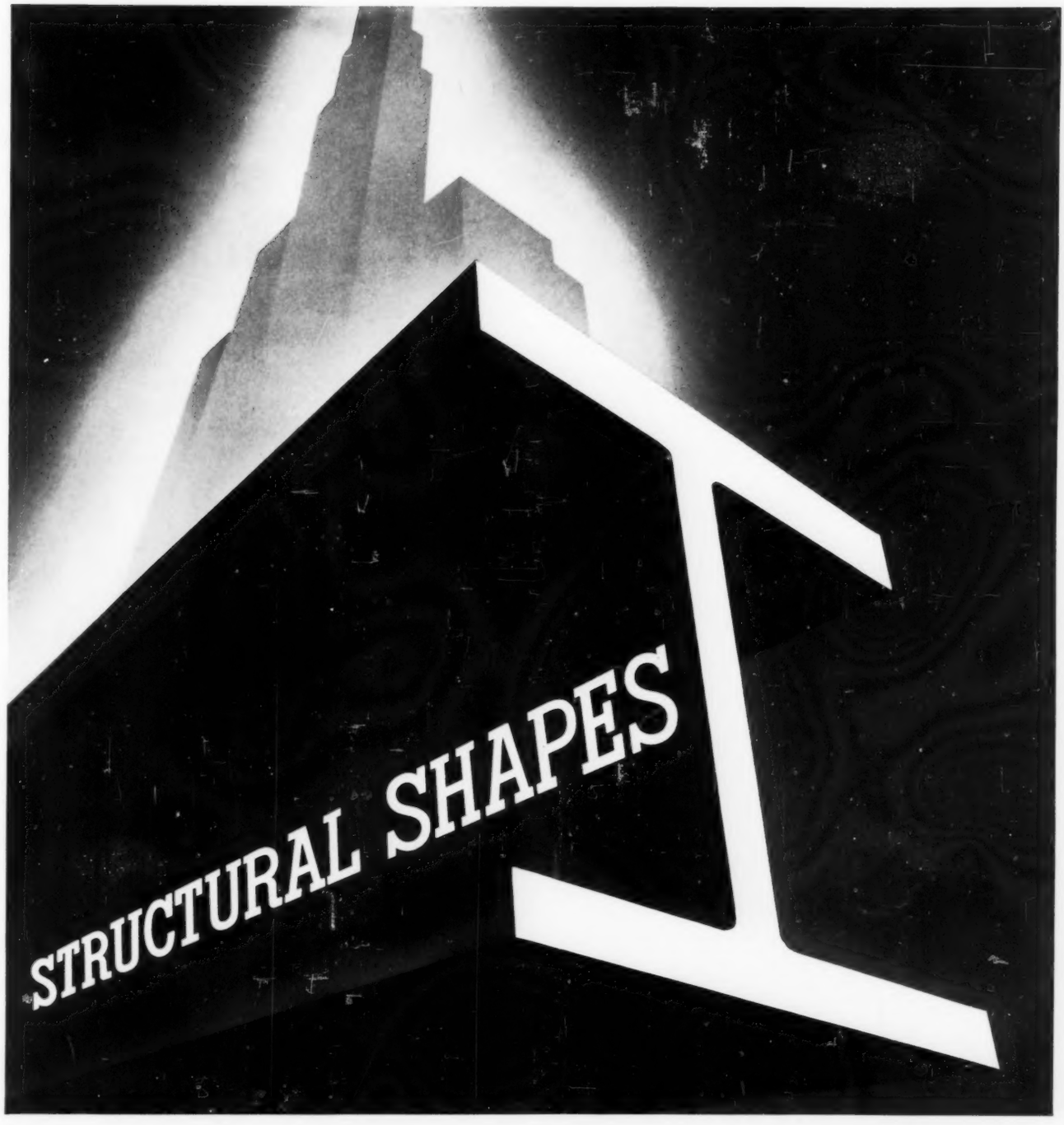
WITH PUBLIC RELATIONS a major element in their purpose, ten architectural societies in and about New York City joined last month in awarding certificates of merit to the designers and owners of eleven small houses recently erected in the metropolitan area. Houses to be eligible for this recognition must have cost the first occupant less than $7,000, comprised no more than six rooms, and been completed between January 1, 1938 and September 30, 1940.

The New York Chapter AIA—heading the participating societies—lists the following objectives in making the awards, planned for continuance as an annual event: "to establish a yardstick of excellence among low-cost individual houses designed by registered architects; to spotlight the architect in this field in order to expand his authority and increase his opportunities—the architects' advice should compete forcefully with that of builders, realtors, and supply companies in establishing 'what the people want'; to provide another effective means of co-operation among the local societies . . .; to appeal to pride of ownership of the certified houses (hence, the duplicate certificates awarded to owners) and, thus, encourage architecture and finer communities."

As a further step in this direct address to the small-house problem, an ex-

(Continued on page 12)

THREE SMALL HOUSES from the group of eleven awarded certificates of merit for excellent design. Above: the R. Lincoln Hedlander residence (special mention), Greenwich, Conn.; architects were Coggins & Hedlander, Greenwich. Right, top: the George Laubendorfer residence, Harmon-on-Hudson, N. Y.; designed by Evans, Moore & Woodbridge, New York City. Right, bottom: the Saul Neivert residence, Elizabeth, N. J., for which Harry Maslow, Elizabeth, was the architect.



from 3-in. Standard to 36-in. Wide-Flange

Bethlehem's range of structural shapes includes every size used in construction work.

Wide-flange beams from 8-in. to 36-in.; standard beams from 3-in. to 24-in., light beam sections from 6-in. to 12-in., including intermediate depths. Bethlehem rolls these shapes regularly and has complete facilities for producing and servicing.

In addition to beam shapes Bethlehem rolls all angles, tees, zees, channels, car-building and shipbuilding shapes—a range of structural materials that makes Bethlehem a dependable and convenient source of supply for all structural steel.

BETHLEHEM STEEL COMPANY

BETHLEHEM STEEL

HEATING OF "BEST MANAGED" BUILDING HAS BEEN IMPROVED

Progressive Ownership Installs Webster Moderator System in 15-Story Genesee Building

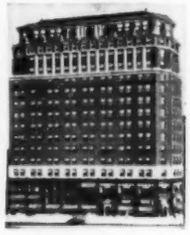
INCREASES TENANT COMFORT

Reduction in Steam Costs is a Secondary Consideration but Owners Save $668 in Year

DESIRED HEAT IN EVERY ROOM

Buffalo, N. Y.—One of the best managed buildings in Buffalo, the 15-story Genesee Building, today enjoys the finest modern steam heating service because a progressive ownership is constantly on the look-out for ways to increase tenant comfort.

A Webster Moderator System was installed in the Genesee Building in 1934 when the owners saw an opportunity to balance steam distribution and improve the effectiveness of the control.



Genesee Building
Buffalo, N. Y.

The results have been completely satisfactory. With the Webster Moderator System, there is nothing for tenants to do except to enjoy comfortable warmth. Room temperatures are kept at the desired level. In every office and on every floor, the Webster Moderator System supplies the proper amount of heat.

Savings were a secondary consideration in the selection of the Webster Moderator System because of past efficiency in the heating of the building.

Nevertheless, steam consumption has been materially reduced as a result of the improvement in steam distribution. During the 1938-39 heating season, for example, savings were valued at $668.52.

N. P. Clement is President of Genesee Properties, Inc., owners of the Genesee Building. J. O. Armstrong is Building Manager.

The Webster Moderator System was installed by J. W. Danforth Co., Buffalo heating contractors. There is a total of 26,404 square feet of installed direct radiation.

LOW HEATING COST

GET THIS BOOK . . . Read the fact stories about economy and comfort in the heating of 144 buildings. No exaggerated claims. No promises. Just 64 pages of heating results. Ask for "Performance Facts."

WARREN WEBSTER & CO., Camden, N. J.
Pioneers of the Vacuum System of Steam Heating
Representatives in 65 principal U. S. Cities—Est. 1888

(Continued from page 10)

hibit was prepared from the photographs and blueprints of houses submitted for award, and opened to the public at the Architectural League, New York City—"excellent newspaper publicity . . . brought many a potential client into the League to see the display." The exhibit, developed by New York Chapter members *M. W. Bacon*, *Harvey Clarkson*, *C. P. Donnelly*, *S. M. Shelov*, and *S. R. Smith*, under the direction of *Nicol Bissell*, is scheduled to go on tour among the other participating society precincts.

Since, with the exception of one special mention, the Jury made no distinctions among the certificate winners, the three houses pictured on page 10 were chosen as illustrative of the over all character of the group. Architects for one or more of the small houses not pictured were: *R. G. Belcher*, New York City; *Wesley S. Bessell*, New York City; *Evans, Moore & Woodbridge*, New York City; *Richard J. Heidelberger*, Seaford Manor; *Ralph M. Karger*, Forest Hills, and *Charles F. Mink*, Larchmont.

The Jury of Award included *Piers Brookfield*, Brooklyn Chapter AIA; *William Cain*, Bronx Society of Architects; *Benson Eschenbach*, Westchester Chapter AIA; *Randolph Evans*, New York Chapter AIA; *Herbert Gibson*, Connecticut Chapter AIA; *Matthew Leizer*, Staten Island Society of Architects; *Samuel L. Malkind*, Brooklyn Society of Architects, and *Joseph Unger*, Queens Society of Architects.

The New York Society of Architects and the Westchester County Society were the two other participating organizations.

Edward Langley Scholarships for 1941

FROM JANUARY 1 to March 1, 1941, the American Institute of Architects, will receive proposals of candidates for Edward Langley Scholarships.

Awards may be made to any persons engaged in the practice of architecture, either in the United States or Canada—architects in active practice; architectural draftsmen; teachers in schools of architecture; students about to be graduated from such schools; and architectural graduate students.

Any architect in the United States or Canada may propose any other architect or draftsman residing in the same country; the faculty or head of any accredited architectural school in the U. S. or Canada may propose any teacher, student about to be graduated, or graduate student in such school.

Further information and proposal forms may be obtained from the American Institute of Architects, 1741 New York Avenue, Washington, D. C.

Organization Notes

WITH ITS REGULAR monthly business meeting on November 6, the San Francisco Architectural Club entered into its fortieth year of existence.

In respect of this anniversary, *Clyde F. Trudell*, elected president for the coming year, says: "By training young architectural draftsmen through its classes of instruction in design, engineering, specifications, and estimating, the San Francisco Architectural Club has contributed more throughout the last 40 years to the growth and architectural beauty of our city than any other similar medium."

Other Club officers elected for 1941 were: *Edmund Rybicki*, Vice-president; *Edward Isola*, Secretary; and *Raymond Carpenter*, Treasurer.

* * *

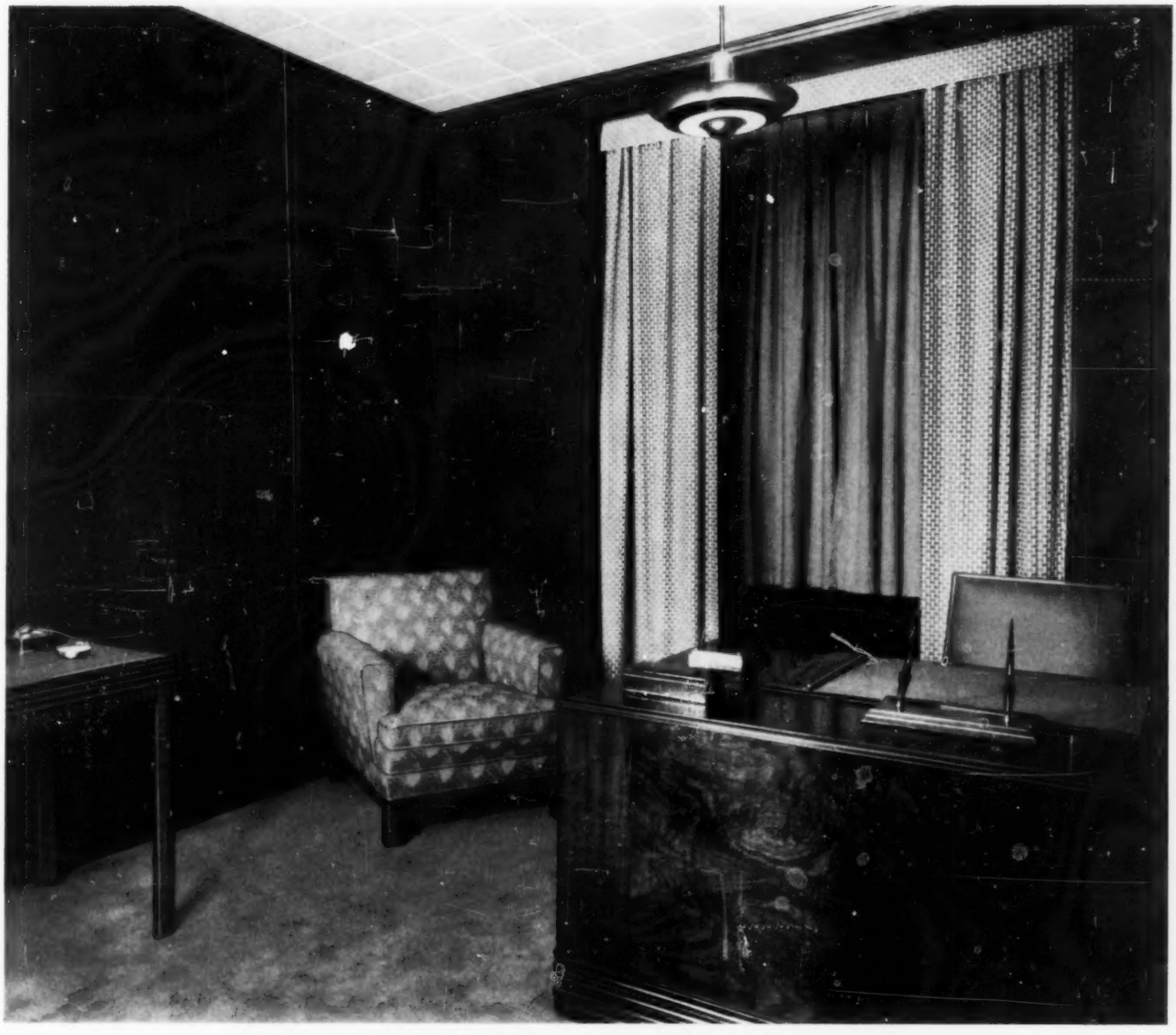
SIXTY ARCHITECTS from various parts of Massachusetts met recently at the Boston Architectural Club and organized the Massachusetts Association of Architects. Stated objectives, according to *Raphael A. Elcock*, were: "to provide a body wherein all qualified architects, architectural draftsmen, teachers, and students may act together for the benefit of the profession; to offer support of state-wide policies; to formulate and enforce principles of fair practice in professional relations, and to represent and act for the profession within the state."

Necrology

EDWARD JOSEPH HARDING, Managing Director of Associated General Contractors of America, died recently in Washington, D. C., at the age of 51.

During the years since 1906, which marked his first association with the construction industry, Mr. Harding worked on the New York City Hudson Tunnels and the Hudson Terminal Building, and from 1917 to 1921 was manager of the James Stewart Co., general contractors. Construction projects under his management included: Camp Pike, Little Rock, Ark.; Camp Bragg, Fayetteville, N. C.; The Coast Air Station,

(Continued on page 14)



Vinylite veneer on Transite Walls forms an attractive finish in this executive office.

COMPLETE FREEDOM OF EXPRESSION

With These Modern Movable Walls

ARCHITECTS are permitted complete freedom of expression when they specify J-M Transite Walls. Decorative possibilities are unlimited, for these modern partitions are furnished in a wide range of finishes, including rich wood veneers, fabric, leather and vinylite lacquer. They may be painted, papered or finished in any other manner desired.

Any type of partition may be furnished—ceiling high, free standing, railings or bank screen. Furthermore, because of their asbestos-cement composition, Transite Walls are fireproof, rotproof and virtually maintenance free. They provide all the solidity and privacy of masonry walls, yet because of their simple erection method, they are quickly, easily installed and just as easily relocated with complete salvage of all materials.

• • •

For full details on both the well-known Imperial Type and the new, lower-priced Universal Type J-M Transite Walls, see our Catalog in Sweet's File or write for new brochure TR-22A. Address Johns-Manville, 22 East 40th St., New York, N. Y.

JM JOHNS-MANVILLE TRANSITE WALLS

PUT *Quiet* IN YOUR CEILING PLANS

with sound-absorbing Armstrong's Corkoustic

Conversation and typewriters cause a minimum of disturbance in this combination office-showroom of the N. Y. & Queens Light & Power Co., Flushing, L. I. The attractive, light-reflecting ceiling of Armstrong's Corkoustic absorbs unwanted sound.

YOUR CLIENTS WILL APPRECIATE THE EXTRA ADVANTAGES OF THIS MODERN ACOUSTICAL MATERIAL

WHEN leading architects plan commercial ceilings, they include features that will attract customers and help make sales. A good example of such planning is the smart ceiling of Armstrong's Corkoustic illustrated above.

Corkoustic assures freedom from distracting noise in offices, stores, and other business interiors. It has a sound-absorption coefficient as high as 82% at 512 cycles. It's an easily cleaned ceiling, too—it can be vacuum-cleaned, washed, or even repainted, without loss of acoustical efficiency.

Better and less expensive lighting is also possible with a Corkoustic ceiling, since the attractive pastel shades available have high light-reflection value, as well as exceptional decorative qualities. Furthermore, being made of cork, Armstrong's Corkoustic provides efficient insulation. It keeps rooms more comfortable and healthful all year round, and helps to cut heating costs in winter.

Why not include all these client-pleasing features in the next ceiling you plan? For complete facts about Armstrong's Corkoustic, see "Sweet's"; or write today for a copy of the free, file-sized booklet, "Tune Out Noise." Address Armstrong Cork Company, Building Materials Division, 1245 State St., Lancaster, Pennsylvania.

Armstrong's

ACOUSTICAL MATERIALS

CORKOUSTIC **TEMCOUSTIC**

WITH RECORD READERS

(Continued from page 12)

Long Island; Camp Barges, Baldwinville, N. Y.; and the Naval Base and Arsenal at Norfolk, Va. He had been Managing Director of the Associated General Contractors since 1930.

At the time of his death, in addition to his regular duties, Mr. Harding was serving as a member of the Construction Advisory Committee to the Army and Navy Munitions Board, assisting in the defense construction program, and was a member of the Federal Advisory Council for Employment Security.

* * *

ALBERT G. BERGER, New York City architect, died last month at the age of 61.

During the past 17 years, as a partner in the firm of Sugarman and Berger, he designed buildings valued at over $150,000,000, among which were: the Hotel New Yorker, Roerich Museum, and the Navarre Garment Center, New York City.

Mr. Berger, a graduate of the University of Budapest, came to the United States in 1904 and started his career as a bricklayer. At the time of his death he had come to be regarded as a pioneer in the architectural profession; the plans for the last project on which he worked, Rockcliffe Apartments in Montclair, N. J., specified, for the first time, a new type of hollow wall designed to solve the waterproofing problem.

Soap Sculpture Competition

HAVING RECENTLY distributed $2,200 in total awards for winning soap sculptures, the National Soap Sculpture Committee announces the opening of a new competition, seventeenth in the annual series, to close on May 15, 1941. Designers, craftsmen, or students with ability to fashion creditable statuary from standard-sized cakes of white soap may secure fuller details on this competition from *Henry Bern*, Committee Secretary, 80 E. 11th St., N. Y. C.

CALENDAR OF EVENTS

- **December 10, 17**—Lectures on "Design In Interiors" by Grace Cornell, Tuesdays, 3 p. m., Metropolitan Museum of Art, New York City.
- **January 27–29**—47th Annual meeting, American Society of Heating and Ventilating Engineers, Hotel Muehlebach, Kansas City, Mo.

for the BIGGEST year in the history of Mesker Windows!

Thank you, creators of a greater America, for making 1940 the biggest year in Mesker history.

Founded in 1879, our growth has been closely associated with the ever-growing importance of the architect as a factor in construction. As a matter of fact, many important Mesker features had their beginnings in suggestions made by our architect friends.

The patented pivot used in Mesker pivoted windows is a good example. Architects asked for a pivoted window that would *stay* in perfect alignment. Bronze bearings, riding in malleable iron cups, provided the answer. No other window made, regardless of cost, has this very important feature.

Architects are going to be busy men the next few years, judging by all indications. You will find it helpful to have factual information at your very fingertips. For your assistance, we have just prepared such material. To receive it, simply mail the coupon below.

See the 24-page Mesker catalog in Sweet's 1940 Architectural Files, section 15-15

MESKER BROS., ST. LOUIS, MO.

Manufacturers of Genuine Wrought Iron Windows . . . Steel Windows with Wrought Iron Sills and All Steel Windows

- CASEMENT WINDOWS
- DETENTION WINDOWS
- INDUSTRIAL DOORS
- INDUSTRIAL WINDOWS
- METAL SCREENS
- MONUMENTAL WINDOWS

SINCE 1879

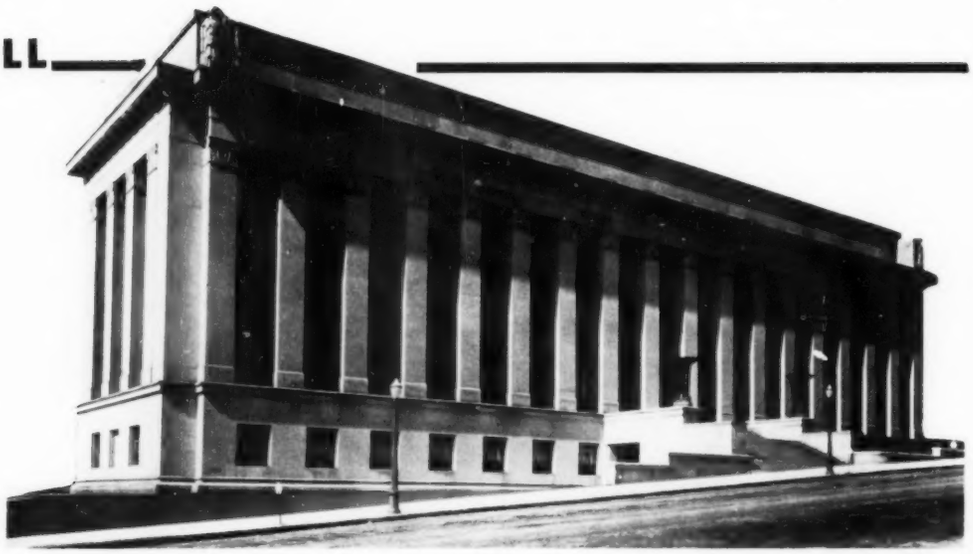
Mesker

BROTHERS

424 SOUTH 7th STREET

ST. LOUIS, MO.

THE RECORD POLL



EIGHTEEN NOMINATIONS: State Highway Commission Building, designed by Carneal, Johnston & Wright, Architects and Engineers

RICHMOND CITIZENS FAVOR TRADITIONAL STYLES

FOURTEEN NOMINATIONS: State Library Building; Carneal, Johnston & Wright, Baskervill & Son, Associated Architects; Alfred Githens and Francis Keally were Consulting Architects.

TWELVE NOMINATIONS: new Hospital at the Medical College of Virginia; Baskervill & Son were the architects.

HAVING LAST MONTH yielded up these pages to the *lebensraum* demands of a dynamically expanded Building Types section, the Record Poll settles back into its own with the returns from Richmond, Va., originally scheduled for publication in the November issue.

Although the response from Richmond citizens, asked to nominate outstanding examples of recent architecture in their city, suggests a local preference in general for the architectural styles of tradition, it is interesting to note the popular endorsement of up-to-the-minute modern for such particular structures as the tobacco factory and radio station pictured on page 18.

Nominations were submitted by the following: *Theodore F. Adams*, pastor; *Dr. Wyndham B. Blanton*, physician; *Dr. F. W. Boatwright*, university president; *Gamble Rogers*, Director, Department of Public Works; *Dr. John Stewart Bryan*, college president; *Thomas C. Colt*, museum director; *Virginius Dabney*, editor; *Willard F. Day*, County Manager; *H. E. Doyle*, builder; *Eppa Hunton, IV*, lawyer; *Robert M. Jeffress*, manufacturer; *O. M. Lafoon*, realtor; *Dr. B. H. Martin*, physician; *Dr. Stuart McGuire*, surgeon; *Rev. George Ossman*; *Raymond B. Pinchbeck*, university dean; *W. T. Sanger*, medical college president; *John Slavin*, artist; *W. H. Schwarzschild*, bank president; *Morton G. Thalhimer*, realtor; *Dr. W. T Vaughan*, physician; *Dr. Emanuel U. Wallerstein*, physician; *Dr. Frank L. Wells*, pastor; *Lewis C. Williams*, lawyer.

Buildings receiving several nominations but less than those pictured: Central National Bank Bldg. (John Eberson, Architect; Carneal, Johnston & Wright, Associate Architects); Crozet House (restoration by Edward F. Sinnott, Architect); Henrico Theater (Edward F.

(*Continued on page* 18)

The Role of Carpet in Commercial Interiors

by ROBERT VON EZDORF

"MY association with Alexander Smith & Sons Carpet Co. has extended over a long period of years, and it has been my experience that they have consistently furnished me with the right carpet for the right purpose plus an exceptional and helpful service.

"In commercial interiors, for example, I plan for a carpet which will help create an attractive, pleasant interior and which will blend in with the articles on display and make them more salable.

"This results in surroundings stimulating to customers and comfortable to the occupants who work there many hours of the day.

"Plans for carpets, such as those used in the new Tiffany's Store and in the offices of the Central Hanover Bank & Trust Company, call for assistance in the way of samples, colors, and designs from the carpet company. I do not hesitate to say that Alexander Smith have rendered this service in the fullest extent."

ROBERT VON EZDORF, of Cross & Cross, Architects, is a designer of interiors and furnishings of long experience and has collaborated with the architectural profession on furnishing many famous buildings such as the Hotel Waldorf-Astoria, the Central Hanover Bank & Trust Company, and the new building for Tiffany & Co., all in New York.

When one of your jobs involves the selection or designing of carpet, our Contract Division will be glad to work closely with you, as it does with Mr. von Ezdorf. For information telephone MUrray Hill 4-7500, Ext. 17, or write for our recently published book, "Nearly Right Won't Do in Contract Carpets," in the opinion of many the most comprehensive and helpful book on the subject ever published. Address Contract Division, Alexander Smith & Sons, 295 Fifth Avenue, New York, N. Y.

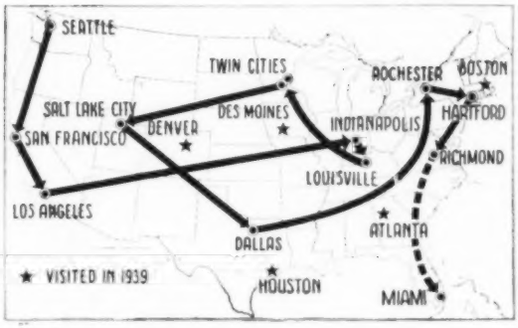
ALEXANDER SMITH CARPET

THE RECORD POLL

(Continued)

Photos by Dements, from Sickles

ELEVEN NOMINATIONS: United States Tobacco Co. Model Factory. It was designed by the architectural firm of Smith, Garden & Erickson.

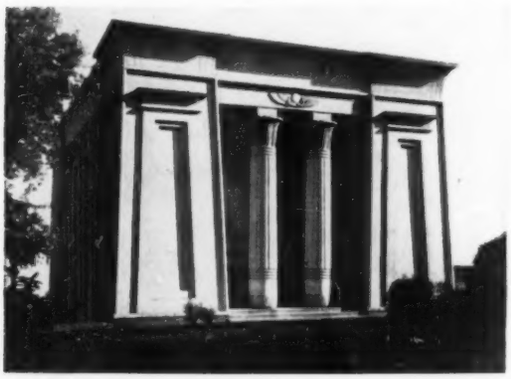


Courtesy American Map Co.

Miami and Miami Beach are the January Poll objectives.

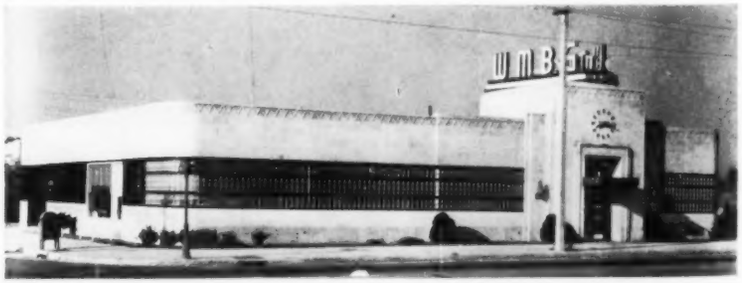
EIGHT NOMINATIONS: The Westhampton Theater, by A. O. Budina of Neighborhood Theaters, Inc.

SIX NOMINATIONS: the Frank A. Bliley Funeral Home, designed by Architect Edward F. Sinnott.



FIVE NOMINATIONS: Reconstructed Egyptian Building, Medical College of Va., Baskervill & Son, Architects.

FOUR NOMINATIONS: new research laboratory of the American Tobacco Co. It was designed by the architectural firm of Francisco & Jacobus.



FOUR NOMINATIONS: Broadcasting Building for radio station WMBG. William H. Rhodes was the architect for this recent project.

(Continued from page 16)

Sinnott, Architect); Home for Confederate Women (Carl M. Linder, Architect); Philip Morris Tobacco Plant (Francisco & Jacobus, Architects); William T. Reed, Jr., residence (Baskervill & Son, Architects); Richmond Sand & Gravel Co. Bldg. (Edward F. Sinnott, Architect); St. Catherine's School—Central Building (Hobart Upjohn, Architects); Virginia Museum of Fine Arts (Peebles & Ferguson, Archs.)

CURRENT TRENDS OF BUILDING COSTS

Compiled by Clyde Shute, Manager, Statistical and Research Division, F. W. Dodge Corporation, from data collected by E. H. Boeckh & Associates, Inc.

CURVES INDICATE trend of the combined material and labor costs in the field of residential frame construction. The base line, 100, represents the U. S. average for 1926-1929 for residential frame construction.

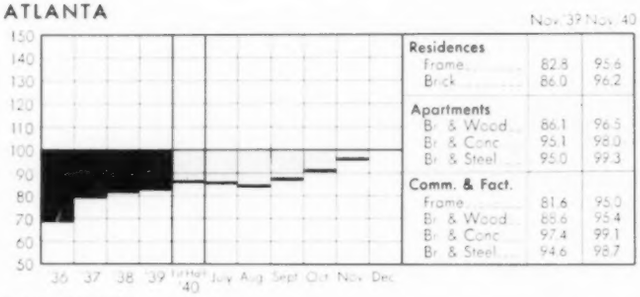
Tabular information gives cost index numbers for the nine common classes of construction. The base, 100, in each of the nine classes represents the U. S. average for 1926-1929 for each particular group. The tables show the index numbers for the month for both this year and last.

Cost comparisons, as percentage differences for any particular class of construction, are possible between localities or periods within the same city by a simple process of dividing the difference between the two index numbers by one of them. For example: if index for city A is 110 and index for city B is 95 (both indexes for A and B must be for the same class of construction), then costs in A are approximately 16% higher than in B $\left(\frac{110-95}{95} = 0.158.\right)$ Conversely it may be said that costs in B are approximately 14% lower than in A $\left(\frac{100-95}{110} = 0.136.\right)$

Similar cost comparisons, however, cannot be made between different classes of construction since the index numbers for each class of construction relate to a different U. S. average for 1926-1929.

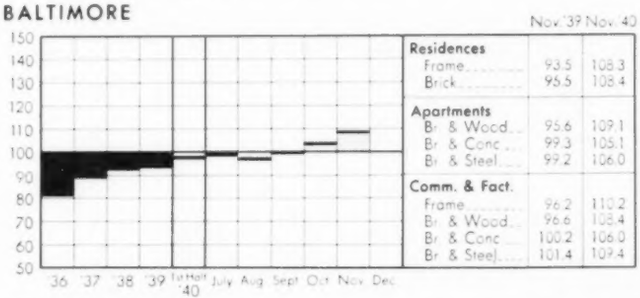
CONSTRUCTION COST INDEX U. S. average, including materials and labor, for 1926 - 1929 equals 100.

ATLANTA



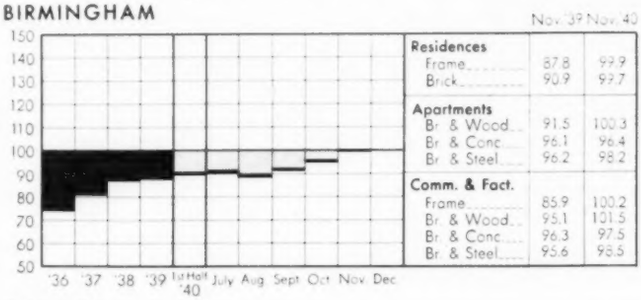
	Nov. '39	Nov. '40
Residences		
Frame	82.8	95.6
Brick	86.0	96.2
Apartments		
Br. & Wood	86.1	96.5
Br. & Conc.	95.1	98.0
Br. & Steel	95.0	99.3
Comm. & Fact.		
Frame	81.6	95.0
Br. & Wood	88.6	95.4
Br. & Conc.	97.4	99.1
Br. & Steel	94.6	98.7

BALTIMORE



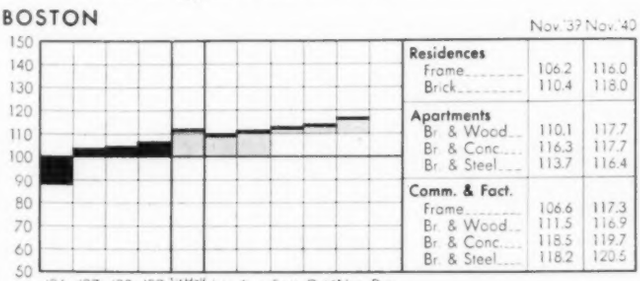
	Nov. '39	Nov. '40
Residences		
Frame	93.5	108.3
Brick	95.5	108.4
Apartments		
Br. & Wood	95.6	109.1
Br. & Conc.	99.3	105.1
Br. & Steel	99.2	106.0
Comm. & Fact.		
Frame	96.2	110.2
Br. & Wood	96.6	108.4
Br. & Conc.	100.2	106.0
Br. & Steel	101.4	109.4

BIRMINGHAM



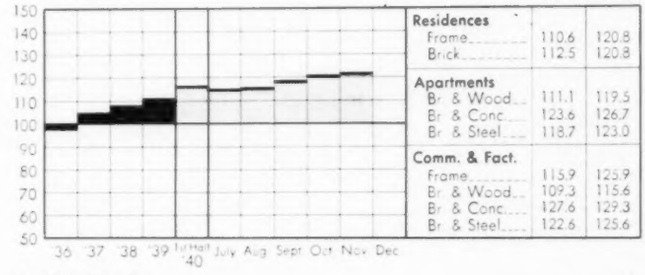
	Nov. '39	Nov. '40
Residences		
Frame	87.8	99.9
Brick	90.9	99.7
Apartments		
Br. & Wood	91.5	100.3
Br. & Conc.	96.1	96.4
Br. & Steel	96.2	98.2
Comm. & Fact.		
Frame	85.9	100.2
Br. & Wood	95.1	101.5
Br. & Conc.	96.3	97.5
Br. & Steel	95.6	98.5

BOSTON



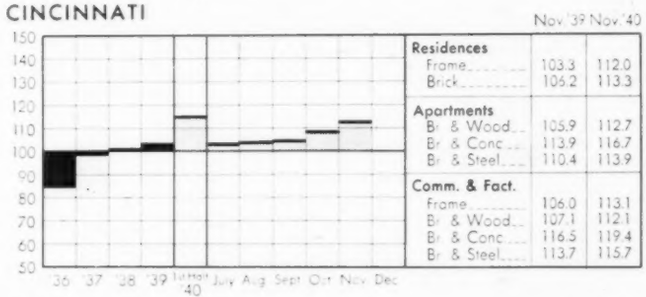
	Nov. '39	Nov. '40
Residences		
Frame	106.2	116.0
Brick	110.4	118.0
Apartments		
Br. & Wood	110.1	117.7
Br. & Conc.	116.3	117.7
Br. & Steel	113.7	116.4
Comm. & Fact.		
Frame	106.6	117.3
Br. & Wood	111.5	116.9
Br. & Conc.	118.5	119.7
Br. & Steel	118.2	120.5

CHICAGO



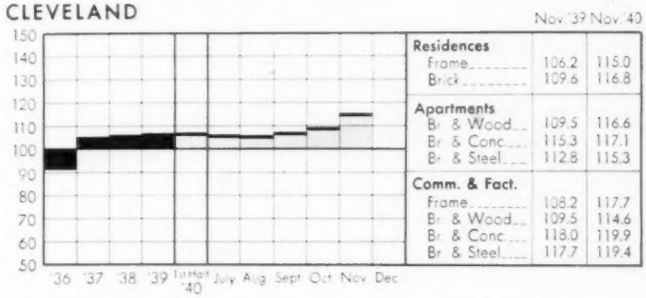
	Nov. '39	Nov. '40
Residences		
Frame	110.6	120.8
Brick	112.5	120.8
Apartments		
Br. & Wood	111.1	119.5
Br. & Conc.	123.6	126.7
Br. & Steel	118.7	123.0
Comm. & Fact.		
Frame	115.9	125.9
Br. & Wood	109.3	115.6
Br. & Conc.	127.6	129.3
Br. & Steel	122.6	125.6

CINCINNATI



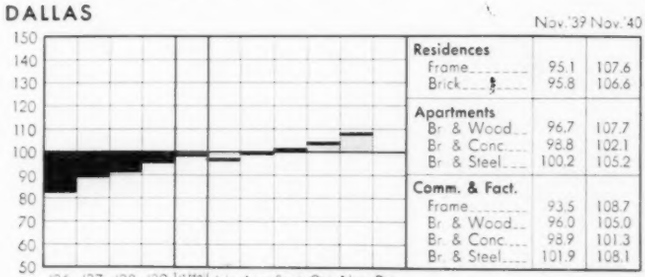
	Nov. '39	Nov. '40
Residences		
Frame	103.3	112.0
Brick	106.2	113.3
Apartments		
Br. & Wood	105.9	112.7
Br. & Conc.	113.9	116.7
Br. & Steel	110.4	113.9
Comm. & Fact.		
Frame	106.0	113.1
Br. & Wood	107.1	112.1
Br. & Conc.	116.5	119.4
Br. & Steel	113.7	115.7

CLEVELAND



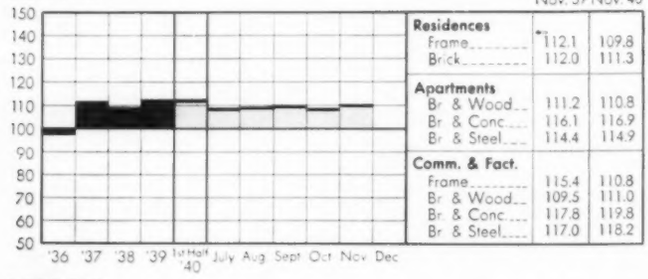
	Nov. '39	Nov. '40
Residences		
Frame	106.2	115.0
Brick	109.6	116.8
Apartments		
Br. & Wood	109.5	116.6
Br. & Conc.	115.3	117.1
Br. & Steel	112.8	115.3
Comm. & Fact.		
Frame	108.2	117.7
Br. & Wood	109.5	114.6
Br. & Conc.	118.0	119.9
Br. & Steel	117.7	119.4

DALLAS



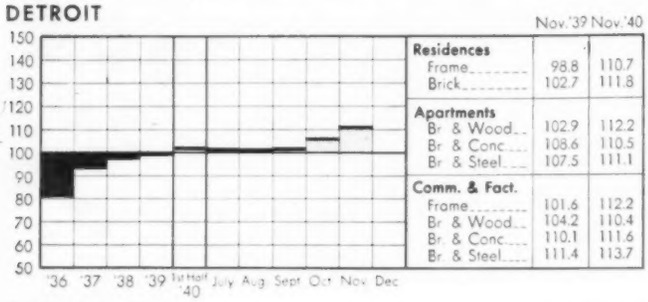
	Nov. '39	Nov. '40
Residences		
Frame	95.1	107.6
Brick	95.8	106.6
Apartments		
Br. & Wood	96.7	107.7
Br. & Conc.	98.8	102.1
Br. & Steel	100.2	105.2
Comm. & Fact.		
Frame	93.5	108.7
Br. & Wood	96.0	105.0
Br. & Conc.	98.9	101.3
Br. & Steel	101.9	108.1

DENVER



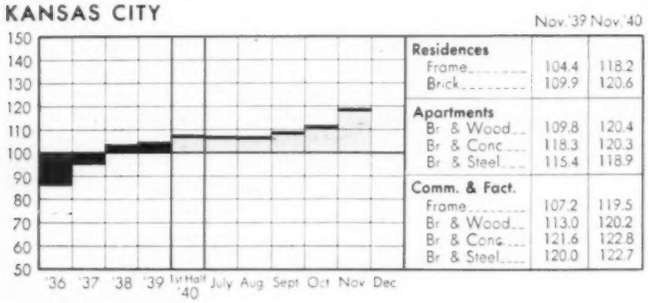
	Nov.'39	Nov.'40
Residences		
Frame	112.1	109.8
Brick	112.0	111.3
Apartments		
Br. & Wood	111.2	110.8
Br. & Conc.	116.1	116.9
Br. & Steel	114.4	114.9
Comm. & Fact.		
Frame	115.4	110.8
Br. & Wood	109.5	111.0
Br. & Conc.	117.8	119.8
Br. & Steel	117.0	118.2

DETROIT



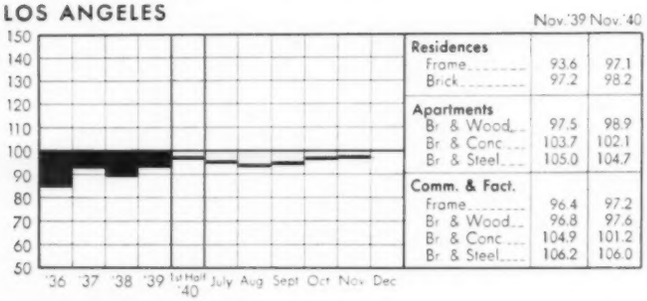
	Nov.'39	Nov.'40
Residences		
Frame	98.8	110.7
Brick	102.7	111.8
Apartments		
Br. & Wood	102.9	112.2
Br. & Conc.	108.6	110.5
Br. & Steel	107.5	111.1
Comm. & Fact.		
Frame	101.6	112.2
Br. & Wood	104.2	110.4
Br. & Conc.	110.1	111.6
Br. & Steel	111.4	113.7

KANSAS CITY



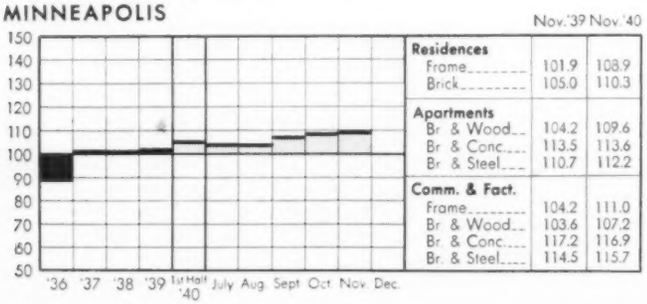
	Nov.'39	Nov.'40
Residences		
Frame	104.4	118.2
Brick	109.9	120.6
Apartments		
Br. & Wood	109.8	120.4
Br. & Conc.	118.3	120.3
Br. & Steel	115.4	118.9
Comm. & Fact.		
Frame	107.2	119.5
Br. & Wood	113.0	120.2
Br. & Conc.	121.6	122.8
Br. & Steel	120.0	122.7

LOS ANGELES



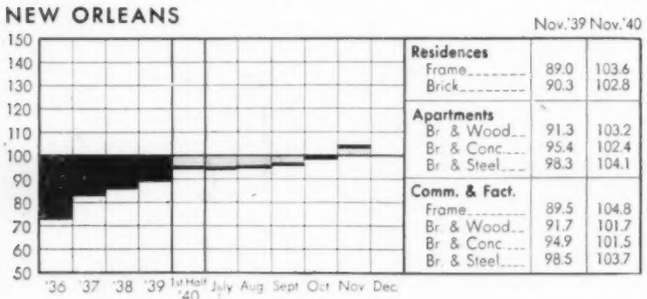
	Nov.'39	Nov.'40
Residences		
Frame	93.6	97.1
Brick	97.2	98.2
Apartments		
Br. & Wood	97.5	98.9
Br. & Conc.	103.7	102.1
Br. & Steel	105.0	104.7
Comm. & Fact.		
Frame	96.4	97.2
Br. & Wood	96.8	97.6
Br. & Conc.	104.9	101.2
Br. & Steel	106.2	106.0

MINNEAPOLIS



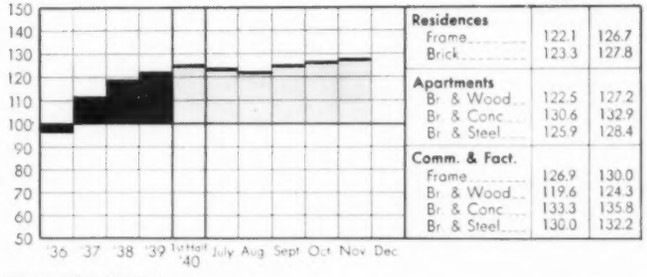
	Nov.'39	Nov.'40
Residences		
Frame	101.9	108.9
Brick	105.0	110.3
Apartments		
Br. & Wood	104.2	109.6
Br. & Conc.	113.5	113.6
Br. & Steel	110.7	112.2
Comm. & Fact.		
Frame	104.2	111.0
Br. & Wood	103.6	107.2
Br. & Conc.	117.2	116.9
Br. & Steel	114.5	115.7

NEW ORLEANS



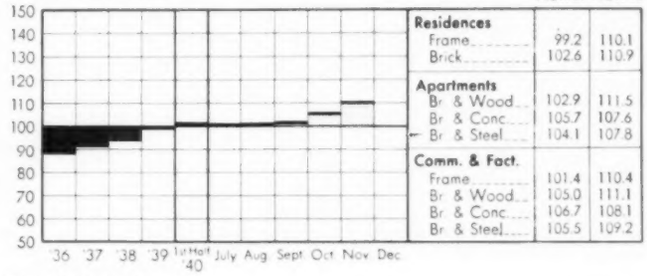
	Nov.'39	Nov.'40
Residences		
Frame	89.0	103.6
Brick	90.3	102.8
Apartments		
Br. & Wood	91.3	103.2
Br. & Conc.	95.4	102.4
Br. & Steel	98.3	104.1
Comm. & Fact.		
Frame	89.5	104.8
Br. & Wood	91.7	101.7
Br. & Conc.	94.9	101.5
Br. & Steel	98.5	103.7

NEW YORK



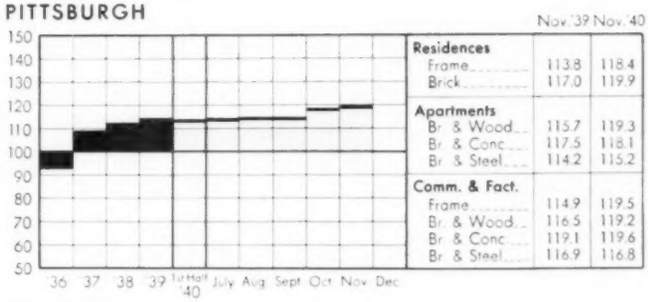
	Nov.'39	Nov.'40
Residences		
Frame	122.1	126.7
Brick	123.3	127.8
Apartments		
Br. & Wood	122.5	127.2
Br. & Conc.	130.6	132.9
Br. & Steel	125.9	128.4
Comm. & Fact.		
Frame	126.9	130.0
Br. & Wood	119.6	124.3
Br. & Conc.	133.3	135.8
Br. & Steel	130.0	132.2

PHILADELPHIA



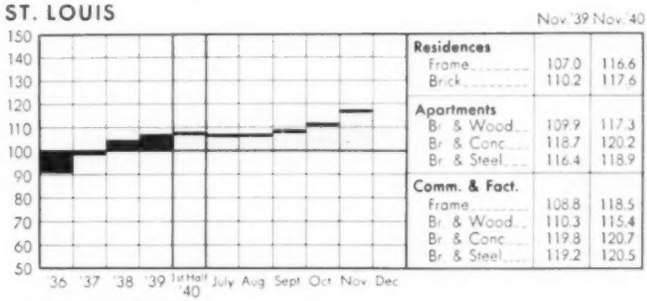
	Nov.'39	Nov.'40
Residences		
Frame	99.2	110.1
Brick	102.6	110.9
Apartments		
Br. & Wood	102.9	111.5
Br. & Conc.	105.7	107.6
Br. & Steel	104.1	107.8
Comm. & Fact.		
Frame	101.4	110.4
Br. & Wood	105.0	111.1
Br. & Conc.	106.7	108.1
Br. & Steel	105.5	109.2

PITTSBURGH



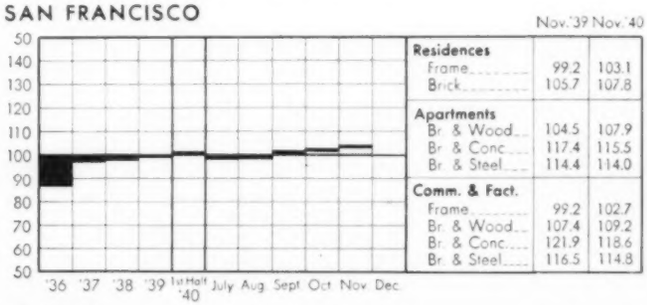
	Nov.'39	Nov.'40
Residences		
Frame	113.8	118.4
Brick	117.0	119.9
Apartments		
Br. & Wood	115.7	119.3
Br. & Conc.	117.5	118.1
Br. & Steel	114.2	115.2
Comm. & Fact.		
Frame	114.9	119.5
Br. & Wood	116.5	119.2
Br. & Conc.	119.1	119.6
Br. & Steel	116.9	116.8

ST. LOUIS



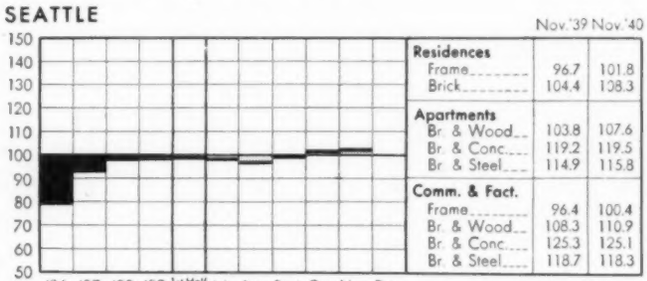
	Nov.'39	Nov.'40
Residences		
Frame	107.0	116.6
Brick	110.2	117.6
Apartments		
Br. & Wood	109.9	117.3
Br. & Conc.	118.7	120.2
Br. & Steel	116.4	118.9
Comm. & Fact.		
Frame	108.8	118.5
Br. & Wood	110.3	115.4
Br. & Conc.	119.8	120.7
Br. & Steel	119.2	120.5

SAN FRANCISCO



	Nov.'39	Nov.'40
Residences		
Frame	99.2	103.1
Brick	105.7	107.8
Apartments		
Br. & Wood	104.5	107.9
Br. & Conc.	117.4	115.5
Br. & Steel	114.4	114.0
Comm. & Fact.		
Frame	99.2	102.7
Br. & Wood	107.4	109.2
Br. & Conc.	121.9	118.6
Br. & Steel	116.5	114.8

SEATTLE



	Nov.'39	Nov.'40
Residences		
Frame	96.7	101.8
Brick	104.4	108.3
Apartments		
Br. & Wood	103.8	107.6
Br. & Conc.	119.2	119.5
Br. & Steel	114.9	115.8
Comm. & Fact.		
Frame	96.4	100.4
Br. & Wood	108.3	110.9
Br. & Conc.	125.3	125.1
Br. & Steel	118.7	118.3

MAKE THIS TEST — Prove BRIXMENT is BEST!

Mix a batch of 1-3 Brixment mortar (left) and a batch of 50-50 cement-lime mortar made with the same proportion of sand (right). Get any competent bricklayer to test them

on the board—to spread them on the wall—to lay up a few brick with each of the two mortars. Then ask him *which* has the best workability!

BRIXMENT *Assures More Economical Brickwork*

Aside from the cost of the brick itself, the most expensive item in masonry construction is the bricklayer's time.

Therefore the most economical mortar you can buy is the one that enables the bricklayer to lay the most brick per day. You cannot afford to give your bricklayer any mortar which causes unnecessary work, such as constant retempering, stooping to the board to replace mortar that failed to stick when he threw up the head-joint, etc. . . To secure economical brickwork, the mortar must have excellent workability.

The plasticity of Brixment mortar is *ideal.* It approaches that of straight lime putty. It enables the bricklayer to do faster, neater brickwork, with the brick well bedded and the joints well filled.

This is the principal reason why Brixment reduces the cost of brickwork. But in addition, less labor and supervision are required in mixing. It can be mixed as needed, to come out even at the end of the day—no mortar is wasted. And it makes a neater job that costs less to clean down.

Louisville Cement Co., *Incorporated*
Louisville, Kentucky

BRIXMENT

For Mortar and Stucco

REVIEWS OF CURRENT LITERATURE

Compiled by Elisabeth Coit, AIA

MONEY IN MOTION (The Social Functions of Banking). By Arthur C. Holden, AIA. Harper & Brothers, New York City. 242 pp., 5½ by 8½ in. $2.50

PUBLIC WORKS programs and housing discussions of recent years have shown in strong relief certain deficiencies in our financial concepts and our financial machinery. Members of the building industry, observing important public improvement programs being carried through on an emergency basis with deficit financing, could scarcely fail to note a highly paradoxical situation. Here were needed projects, employing otherwise idle planning talent, construction techniques, manpower, and materials, to produce substantial community assets which would become additions to our national wealth. From the point of view of needs, we could not afford *not* to do these things; according to accepted banking concepts, we could not afford to do them.

This dilemma prompted the writing of this book by a New York architect, whose numerous magazine articles on housing finance, city-plan, and land-utilization problems, have given him a national reputation within and without his profession.

For the present task, Mr. Holden has brought to bear on the problem years of study of economics, money, and banking, as indicated by his bibliography, numbering 276 titles, of books and documents collected by him for his private library and used in developing the philosophy of long-term credit here expounded.

For it is a philosophy of long-term credit, an interpretation of current evolutionary trends toward central banking in the capital investment field, and of the need for a flexible system of financing durable goods production that is here presented; not a detailed program of banking reform. Mr. Holden traces the evolution of monetary concepts from prehistoric barter to installment credit and FHA-insured mortgages, for the purpose of pointing the direction toward a future system under which a better balanced economy, with less severe cyclical fluctuations, may be obtained. To maintain a progressive economy and an expanding civilization, a full modernized financial system must keep the construction industry continuously at work.

The author points out that current needs and demands for durable goods do not necessarily have any relationship to current accumulations of savings available for investment, although conventional banking concepts tend arbitrarily and inflexibly to tie the two together. We manage these things better in the consumer-goods field, for which an elastic central-reserve credit system is in full operation

Mr. Holden distinguishes clearly between the kind of central-reserve capital credit system he visualizes as the future result of current trends and the kind of bank nationalization demanded by the Marxists. He draws a clear distinction between the responsibilities of government and of the banking profession, and emphasizes the necessity of banking judgment in the functioning of the credit system.

He sees in modernization and liberalization of our credit concepts an opportunity for the capitalist system to function more efficiently than ever before. His views are well summarized in the following quotation:

"Capital credits may be extended on an equitable basis with predictable surety when advanced to liberate work to be done and required to be liquidated according to the savings and loan method so that the payments made indicate an approximation of the enjoyment derived. Could we but grasp the simple truth behind this statement and put it into words so crystal clear that they would not be subject to misinterpretation, we would recognize that 'capitalism' is not a mere vested right of exploitation as many have feared, but an as-yet-undeveloped institution whose true function is to facilitate the interchange of services when there is a time disparity between production and consumption."

The language and thought-sequence of this book are very simple and clear, an unusual quality in a treatise on finance. Here is a highly significant contribution to the economic thought of our times, which should be required reading for all those who desire an understanding of the evolutionary changes that are taking place in our society.

—Thomas S. Holden

DESIGN OF CONCRETE STRUCTURES. By Leonard Urquhart and Charles Edward O'Rourke. New York, McGraw-Hill Book Company, 1940. IX, 564 pp., 6¼ by 9 in. Illustrated. $4.50

CONCRETE DESIGN AND CONSTRUCTION. By W. Herbert Gibson. Chicago, American Technical Society, 1940. 500 pp., 5¾ by 8½ in. Illustrated

A.S.T.M. STANDARDS ON CEMENT. Prepared by Committee C-1 on Cement. Philadelphia, American Society for Testing Materials, 1940. IV, 103 pp., 6 by 9 in. Illustrated. $1.00

THESE THREE PUBLICATIONS together bring up to date the record of current thought and practice in concrete: design, specifications, placing, chemical analysis, physical tests.

Design of Concrete Structures, the fourth edition of a standard handbook by two Cornell professors of structural engineering, first published in 1923, is a thorough revision in accordance with the recent recommendations of the American Concrete Institute Standard Building Code. Mr. Gibson's book, a revision of his 1931 work written in collaboration with Professor W. L. Webb of the University of Pennsylvania, covers much the same ground. Both books are intended for the student; both include the theory and practice of concrete design.

The Gibson work leans in the direction of the practicing engineer. It includes recommended specifications and many photographs of structures and of tools and machines used in the manufacture and placing of concrete, even to the pneumatic-tired wheelbarrow, as well as time- and labor-saving hints. Some 200 questions, with answer references, form a useful analysis of the work and a test of the reader's knowledge.

The Urquhart and O'Rourke work has in mind the somewhat more advanced student and the professional engineer. It goes more fully, for example, into the advantages of flat-slab construction; includes useful appendices on recommendations of the A.C.I. Joint Code and 31 pages of tables and diagrams for convenient reference, in addition to those supplied in the text.

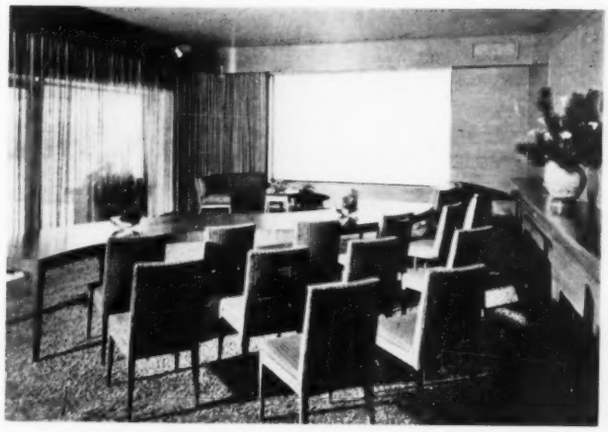
All of the specifications and test methods issued by the A.S.T.M. are included in the 1940 compilation. Changes made in the standards during the year

(Continued on page 26)

FOR CONVENIENT PROJECTION OF

Motion Pictures and Other Visual Material

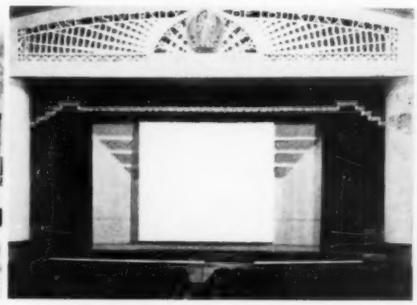
TO LARGE GROUPS



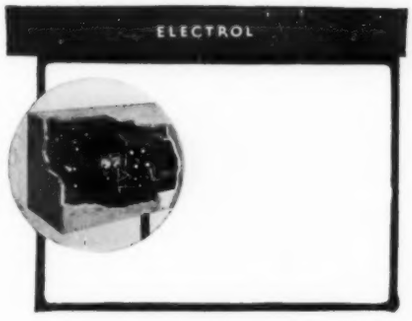
In the home of **David A. Smart,** Publisher of Esquire, the Da-Lite Electrol Screen, placed above a window is out of sight when not in use.

Specify DA-LITE (Reg. U. S. Pat. Off.) ELECTROL SCREENS

Frank Lloyd Wright specified the Da-Lite Electrol for the auditorium of this modern plant of **S. C. Johnson & Sons** at Racine, Wisconsin.



At **Tulane University,** New Orleans, in the new McAlister Auditorium, a Da-Lite Electrol helps to assure perfect projection.



The screen, motor drive, and case form one complete unit, that can be easily installed in recesses in the ceiling, to form an integral part of the building construction. The unit may also be hung from wall or ceiling brackets which are furnished. **The Electrol** is one of many styles of screens in the Da-Lite line. A line famous for quality for 31 years.

In homes, schools, clubs, industrial plants and other buildings where screens larger than 6 x 8 feet are needed for showing pictures to large groups, the Da-Lite Electrol Screen offers many advantages.

The Electrol Screen is electrically operated, by a remote control switch placed at any desired location. By merely pushing a button, the screen can be raised or lowered automatically. Because the speed is constant, there is no strain on the fabric, and no danger of an accidental flip up, as is the case with spring-operated screens.

The Da-Lite Electrol Screen was built to meet the architect's requirements for a screen that would fit neatly into his construction plans. Its compact proportions, with the motor and gear drive enclosed in the case, permit easy installation in a recess in the ceiling. Out of sight, except when used the Da-Lite Electrol does not interfere with the decorative effect of any room. The Electrol is available with either Mat White or Glass-Beaded surfaces in sizes up to 20 by 20 feet. Write for 48 page Da-Lite catalog, containing helpful suggestions on screen selection and full details on the Electrol Screen.

THE DA-LITE SCREEN COMPANY, INC.

2723 NORTH CRAWFORD AVENUE · · CHICAGO, ILLINOIS

REVIEWS OF CURRENT LITERATURE

(Continued from page 24)

are incorporated, as are the new tentative specifications covering five types of Portland cement and the newly standardized test for autoclave expansion. Testing procedures are given for chemical analysis, for sampling and physical testing, and an illustrated "Manual of Cement Testing" is included.

THE LAW OF PUBLIC HOUSING. By William Ebenstein. Madison, University of Wisconsin Press, 1940. IX, 150 pp., 7¾ by 5¾ in. $1.75

ESSENTIALS of Federal and State housing law of the past six years are outlined by a member of the University of Wisconsin Law School faculty. Brief introductory chapters present "Elements of the Housing Problem" and the role of the government in housing in this country; while a concluding chapter enumerates experiences and problems of some European countries. In addition to a detailed table of cases, the volume includes the amended form of the 1937 U.S. Housing Act and somewhat detailed accounts of two leading cases: New York City Housing Authority v. Miller (on condemnation) and Rutherford v. City of Great Falls (on the constitutionality of two housing laws).

AN INTRODUCTION TO MODERN ARCHITECTURE. By J. M. Richards. New York, Penguin Books, 1940. 126 pp., 4¼ by 7⅛ in. Plans, diagrams, 32 plates (photos). Paper cover. $0.25

A VEST POCKET BOOK this, combining a businesslike summary of the development of modern architecture with sympathetic exposition of the social and industrial period which produced it. Clear, simple, precise, and at times sparkling, the little manual will excite the new reader's interest, and for the not-so-new reader may lay such ghosts as: "functionalism;" LeCorbusier's "machine for living," which did not exclude the "personal and impulsive;" and "nationalism," which may well yield to "regionalism."

CURRENT PERIODICAL LITERATURE

How Have Architects Succeeded? National Association of Housing Officials. Selected Proceedings, Eighth Annual Meeting, Chicago, 1940, pp. 32-3

"OF THE architects who have been given this problem . . . 40% have proved capable of coping with the situation and were able to resolve its demands into acceptable economic and esthetic terms." A representative of the USHA "advised that the experience of the USHA confirmed the over-all statement that not all architects have been able to rise to the opportunity . . . USHA experience has been that too often architects are either unwilling to fight for new ideas or unable to justify them."

Housing as Architecture. By Dorothy Lefferts Moore. Magazine of Art, Washington, Oct., 1940, pp. 562-7. Illustrated

SPIRITED if somewhat arbitrary judgments by the wife of a well-known architect on the esthetics of housing as exemplified or failing of exemplification in materials, layout, purity of line and mass, and fenestration used mainly in recent public housing projects.

Savings from Insulation in Low-Cost Housing. By W. H. Purnell. Heating and Ventilating, New York, Oct., 1940, pp. 31-3

AN ARCHITECT of the Department of Regional Planning of the TVA describes tests on heat transmission through certain house structures, made at Norris under rigid control, and at Hiwassee in inhabited houses identical except for insulation.

The article points out that a small insulated house may be heated by a warm-air oil-fed burner in a first-floor chamber 3 by 6 ft., whereas an uninsulated house of the same size would require a cellar to house a heater of sufficient capacity to heat it.

Unique Roof Design: Glued Laminated Timber Arches. By Frederick Jones. Architect and Engineer, San Francisco, Oct., 1940, pp. 49-52. Illustrated

ADAPTABILITY, flexibility, and economy are advantages of a type of construction little developed in this country prior to installation of glued arches in the Service Building of the Forest Products Laboratory in 1935.

The present article shows the use of arches designed by Professor Sergev of the University of Washington for that University's one-story Penthouse Theatre.

Eight laminated wooden arches support the auditorium roof. These arches or trusses extend vertically for about 20 ft. from the side wall and continue "on a rather sharp angle" to the roof, meeting in a "hub" at the roof peak. Otherwise standard construction is used.

This type of construction makes possible wider uses for lumber and innovations in design without overcomplicating building methods. Arches to span large unobstructed areas are available with superior architectural effect; and the use of wood in a wood-producing country is not only economical but contributes to harmony of the structure with neighboring buildings.

Sensation of Warmth as Affected by the Color of the Environment. By F. C. Houghten, H. T. Olsen, and John Suciu, Jr. Heating, Piping, and Air Conditioning, New York, Nov., 1940, pp. 678-681. Illustrated

"THERE IS an accepted belief that a person's sensation of warmth may be affected by color . . . (one feels) warmer in a color scheme in which red predominates, as compared with one in which blue is the prevailing color." This article reports an experiment resulting from an exploratory study by a joint committee of the ASHVE and the Illuminating Engineering Society, in collaboration with the John B. Pierce Laboratory of Hygiene and others.

Mouth and skin temperatures and indication of the subjects' feelings of warmth were charted during a period of several days when two subjects were exposed to various colors under controlled conditions of temperature, relative humidity, and air motion. While considerable variations were noted "none of these variations shows any correlation with the color experienced." The log of the seventh and last test is reproduced.

Current Trends in Oregon Architecture. By Roi L. Morin, AIA. Architect and Engineer, San Francisco, Oct., 1940, pp. 19-38. Illustrated

PICTORIAL EXPOSITION of recent buildings to support the author's thesis that a style of architecture and building indigenous to Oregon and the Pacific Northwest is developing. Oregon design is "overwhelmingly influenced by the abundance of economical structural wood, a long season of rainfall, a deep-green background without too much sunlight, coupled with a lack of the finer clays for brick and tile and a scarcity of rich building stones and metals."

Criticism: Queen City Yacht Club. (Monthly Series). By James MacQuedy. Architectural Review, London, Sept., 1940, pp. 91-2. Illustrated

THIS small yacht-house in Seattle, Wash. has clapboard walls; windows both circular and "moderne" with horizontal muntins; and a studied asymmetry characteristic of the emancipated "twenties." It constitutes a design "reminiscent of the so-called modernists who enthusiastically adopted new period designs after the Paris Exposition of 1925, without ever being able to discard their Beaux-Arts habits of thought."

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